

CHAPTER 3 - AVIATION DEMAND FORECAST

This chapter presents a summary of historical aviation demand at San Antonio International Airport and a forecast of unconstrained aviation demand for 2009 through 2050 (the forecast period). An unconstrained forecast is based on the assumption that future growth in aviation demand will not be constrained by available facilities or legal, political, environmental, or other restrictions. Baseline, high-growth, and low-growth forecast scenarios were developed for enplaned passengers, air cargo tonnage, and aircraft operations. The supporting analyses required in developing the forecasts are presented below followed by an explanation of the forecast approach and methodology, the forecast results and a comparison of the Master Plan forecast results to the 2008 FAA Terminal Area Forecast (TAF) for the Airport.

Since publication of the master plan forecast, international service growth has been lagging, in large part due to continued weak economic conditions. Therefore, attaining direct international service would likely be delayed from the original forecast projections. It now appears more likely that direct international service could occur near the end of the planning horizon, approximately the year 2030. This assumption is being reflected in the implementation plan.

3.1 AIRPORT SERVICE REGION

As shown on **Figure 3-1**, the primary geographical area served by the Airport consists of Atascosa, Bandera, Bexar, Comal, Guadalupe, Kendall, Medina, and Wilson counties, which are defined as the San Antonio Metropolitan Statistical Area (MSA). According to the U.S. Department of Commerce, Bureau of the Census, the population of the San Antonio MSA was 2,031,445 in 2008 (see **Table 3-1**), representing approximately 8 percent of the total Texas population of 24.3 million. Bexar County includes the City of San Antonio and accounts for about 80 percent of the population of the San Antonio MSA, as reflected by the population densities shown on Figure 3-1. The economic growth and activity within this area stimulate a significant portion of passenger demand at the Airport. Thus, the San Antonio MSA was defined as the Airport service region, and statistics for the San Antonio MSA were used to evaluate certain long-term and future aviation activity trends at the Airport. The Airport also attracts passengers from areas surrounding the San Antonio MSA.

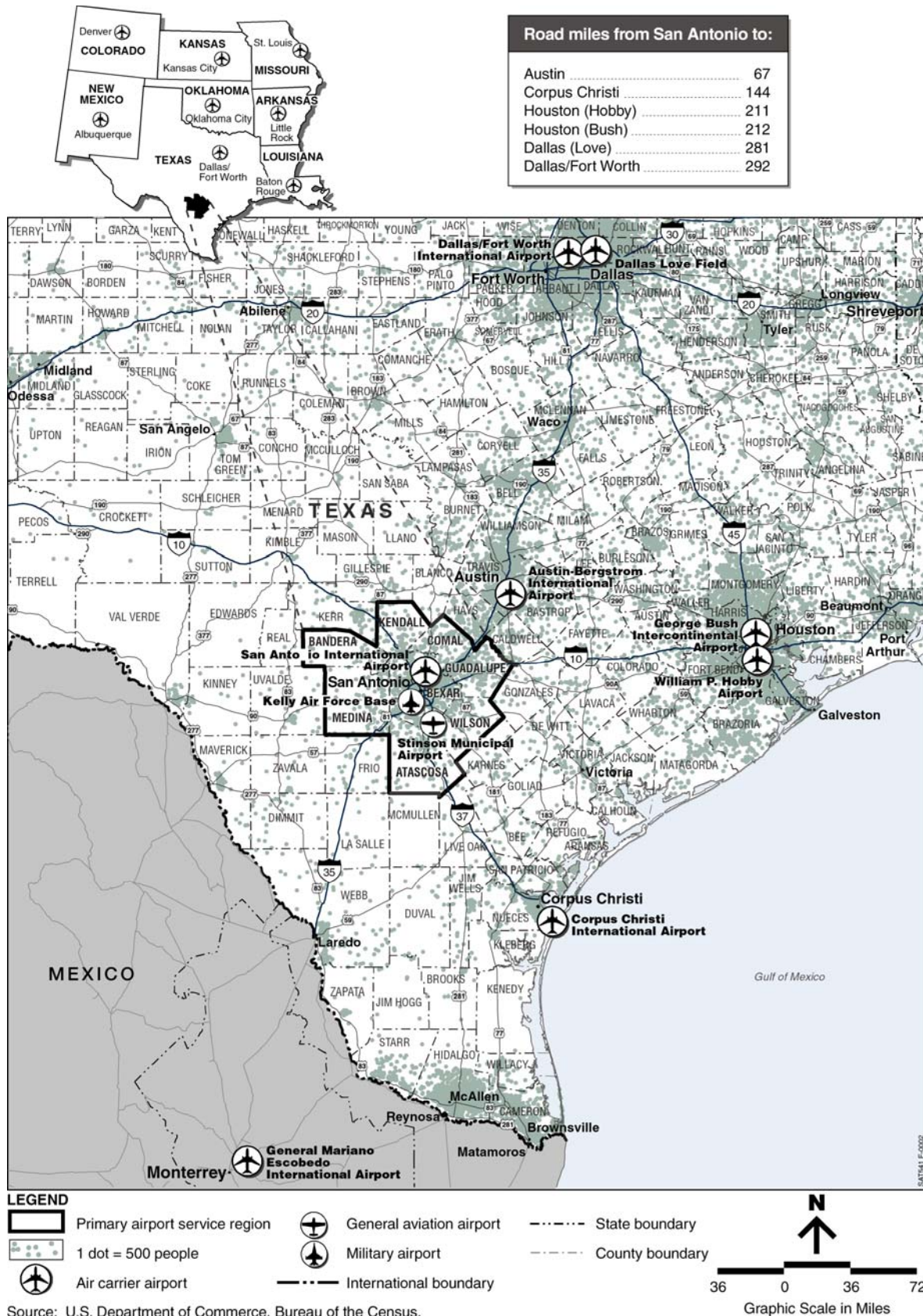
Table 3-1: Population Distribution in the San Antonio MSA

County	2008 Population	Percent of Total
Bexar	1,622,899	79.9%
Guadalupe	117,172	5.8
Comal	109,635	5.4
Medina	44,275	2.2
Atascosa	43,877	2.2
Wilson	40,398	2.0
Kendall	32,886	1.6
Bandera	20,303	1.0
Total	2,031,445	100.0%

Note: Columns may not add to totals shown because of rounding.

Source: U.S. Department of Commerce, Bureau of the Census, Population Division, Table 3-1: *Annual Estimates of the Resident Population for Counties of Texas: April 1, 2000 to July 1, 2008* (CO-EST2008-01-48), release date March 19, 2009, www.census.gov.

Figure 3-1: Airport Service Region



3.2 COMMERCIAL SERVICE AIRPORTS IN TEXAS

The limits of SAT's Airport Service Region are, to an extent, determined by the proximity of other airports within reasonable driving distances. These airports include Austin-Bergstrom International Airport, 67 miles northeast of the Airport, Corpus Christi International Airport, 144 miles southeast of the Airport, the Houston airports, approximately 210 miles east of the Airport, and the Dallas airports, approximately 285 miles north of the Airport. **Table 3-2** presents a comparison of scheduled airline service at the Airport and at the other Texas airports mentioned above. This comparison is an indication of existing and/or potential air service competition.

**Table 3-2: Scheduled Airline Service at Commercial Service Airports
Near San Antonio
Daily Departures for June 2009**

Airport Location/(Airport)	Driving Distance from San Antonio (miles)	Domestic Airlines			Foreign-Flag Airlines (a)	Total
		Mainline	Regional Affiliates	Low-Cost Carriers		
San Antonio	--	45	27	59	5	136
Austin	67	48	34	63	1	146
Corpus Christi	144	0	17	5	0	22
Dallas/Fort Worth	292	540	301	17	9	867
Dallas (Love)	281	0	20	127	0	147
Houston (Bush)	212	324	418	3	16	761
Houston (Hobby)	211	1	13	142	0	156

Note: Rows may not add to totals shown because of rounding.

(a) Includes mainline and affiliate operations.

Source: Official Airline Guides, Inc., online database, accessed June 2009.

AUS, which opened in 1999 and replaced Robert Mueller Municipal Airport, accommodates slightly more flights and enplaned passengers than SAT. The airports serving Dallas/Fort Worth and Houston offer more service choices than SAT, but are located between 200 and 300 miles away. Similarly, the scheduled service offered at Corpus Christi International Airport is too limited for the airport to be considered a significant competitor to SAT. **Table 3-3** provides enplaned passenger information for this same group of airports and shows how SAT and AUS are approximately equal in terms of numbers of passengers enplaned.

**Table 3-3: Enplaned Passengers at
Selected Commercial Service Airports in Texas**

Airport Location/(Airport	2008 Enplaned Passengers
San Antonio	4,167,440
Austin	4,263,194
Corpus Christi	371,054
Dallas/Fort Worth	27,253,247
Dallas (Love)	4,525,217
Houston (Bush)	19,559,051
Houston (Hobby)	4,850,891

Note: Includes passengers enplaned on domestic and foreign-flag airlines.

Sources: San Antonio International Airport records; U.S. Department of Transportation, Schedule T100 Market, online database, accessed April 2009; Airports Council International (ACI) 2007 (*World Air Traffic Report*).

3.3 ECONOMIC BASIS FOR AVIATION DEMAND

The economy of the San Antonio MSA is an important determinant of long-term passenger demand at the Airport. The development and diversity of the economic base of an airport service region are important to future passenger traffic growth. The San Antonio MSA has a diverse population and economic base and is an important center of business, manufacturing, and government activity.

The following sections present a discussion of the economic basis for aviation demand at the Airport. Also provided is a summary of the economic outlook for the United States, Texas, and the San Antonio MSA.

3.3.1 Historical Population, Employment, and Per Capita Income

Table 3-4 presents comparative trends in population, nonagricultural employment, and per capita personal income in the San Antonio MSA, Texas, and the United States in 1980, 1990, and 2000 through 2008.

Population

As shown in **Table 3-4**, the population of the San Antonio MSA increased at higher average annual growth rates than the population of the State of Texas throughout the historical period (except between 2000 and 2001). Populations in the San Antonio MSA and the State of Texas have historically grown at higher rates than in the nation as a whole. Population in the San Antonio MSA increased an average of 2.0 percent per year between 1980 and 2000. Between 2000 and 2008, population in the San Antonio MSA increased an average of 2.1 percent per year. The MSA growth rate between 2000 and 2008 is slightly higher than 1.9 percent growth in Texas and more than double the 0.9 percent growth in the United States.

Employment

Since 1990, nonagricultural employment in the San Antonio MSA increased at higher average annual growth rates than in the State and the nation, as shown in Table 3-4 and on **Figure 3-2**. Between 1990 and 2000, nonagricultural employment in the San Antonio MSA increased an average of 3.2 percent per year compared with annual averages of 2.9 percent in Texas and 1.9 percent in the nation as a whole. A similar trend was observed between 2000 and 2008, when nonagricultural employment in the San Antonio MSA increased an average of 1.7 percent per year, compared with annual averages of 1.5 percent in Texas and 0.5 percent in the United States.

**Table 3-4: Historical Socioeconomic Data
San Antonio MSA, State of Texas, and United States
1980-2008**

	Population (thousands) (a)			Nonagricultural Employment (thousands) (b)			Per capita Personal Income in 2000 dollars (c)		
	San Antonio MSA	State of Texas	United States	San Antonio MSA	State of Texas	United States	San Antonio MSA	State of Texas	United States
1980	1,155	14,226	226,542	n.a.	5,851	90,528	\$18,002	\$20,647	\$21,136
1990	1,411	17,057	249,623	543	7,101	109,487	21,129	22,953	25,661
2000	1,719	20,946	282,172	745	9,432	131,785	26,754	28,317	29,847
2001	1,744	21,334	285,040	753	9,514	131,826	26,328	28,241	29,736
2002	1,778	21,713	287,727	754	9,416	130,341	25,918	27,623	29,518
2003	1,809	22,062	290,211	751	9,370	129,999	26,021	27,548	29,508
2004	1,845	22,425	292,892	760	9,497	131,435	26,523	28,249	30,226
2005	1,879	22,811	295,561	782	9,741	133,703	27,481	29,316	30,587
2006	1,932	23,368	298,363	812	10,066	136,086	27,837	30,034	31,428
2007	1,985	23,843	301,290	834	10,395	137,598	28,109	30,798	32,070
2008	2,031	24,327	304,060	853	10,617	137,066	n.a.	30,852	31,793
Percent increase (decrease)									
2000-2001	1.4%	1.9%	1.0%	1.1%	0.9%	0.0%	(1.6%)	(0.3%)	(0.4%)
2001-2002	1.9	1.8	0.9	0.1	(1.0)	(1.1)	(1.6)	(2.2)	(0.7)
2002-2003	1.7	1.6	0.9	(0.4)	(0.5)	(0.3)	0.4	(0.3)	(0.0)
2003-2004	2.0	1.6	0.9	1.2	1.4	1.1	1.9	2.5	2.4
2004-2005	1.9	1.7	0.9	2.9	2.6	1.7	3.6	3.8	1.2
2005-2006	2.8	2.4	0.9	3.8	3.3	1.8	1.3	2.4	2.8
2006-2007	2.7	2.0	1.0	2.8	3.3	1.1	1.0	2.5	2.0
2007-2008	2.3	2.0	0.9	2.3	2.1	(0.4)	n.a.	0.2	(0.9)
Average annual percent increase									
1980-1990	2.0%	1.8%	1.0%	n.a.	2.0%	1.9%	1.6%	1.1%	2.0%
1990-2000	2.0	2.1	1.2	3.2	2.9	1.9	2.4	2.1	1.5
2000-2008	2.1	1.9	0.9	1.7	1.5	0.5	n.a.	1.1	0.8

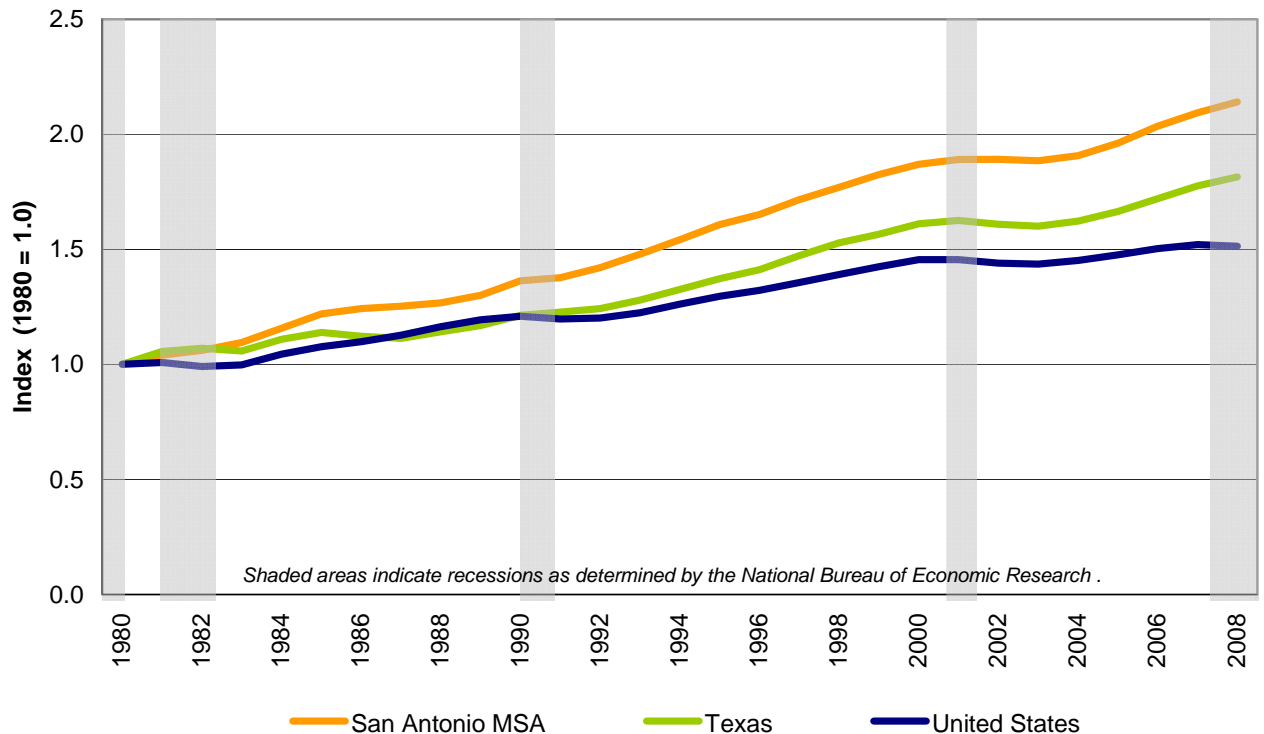
n.a. = Not available.

(a) U.S. Department of Commerce, Bureau of the Census, www.census.gov, accessed June 2009.

(b) U.S. Department of Labor, Bureau of Labor Statistics, www.bls.gov, accessed June 2009.

(c) U.S. Department of Commerce, Bureau of Economic Analysis, www.bea.gov, accessed June 2009. Adjusted to constant 2000 dollars using the U.S. Department of Labor Consumer Price Index for Urban Consumers (1982-84 = 100), www.bls.gov.

**Figure 3-2: Trends in Nonagricultural Employment
San Antonio MSA, State of Texas, United States**



Source: U.S. Department of Labor, Bureau of Labor Statistics, www.bls.gov, accessed June 2009.

An indicator of a region's economic strength is its performance during recessions or periods of weak economic conditions. Since 1980, economic activity in the San Antonio MSA during economic recessions, as measured by nonagricultural employment, has often exceeded national trends (see **Table 3-5**). This was particularly true during the years leading into the current recession, during which growth in nonagricultural employment in the San Antonio MSA was 2.8 percent between 2006 and 2007, and 2.3 percent between 2007 and 2008, compared with respective national growth rates of 1.1 percent and -0.4 percent for the same years. The San Antonio MSA and the State of Texas appear to be in a better position relative to their economic growth during the last recession. Unlike the recession beginning in 2001, the change in the rate of growth between the year in which the current recession began and the first full year of the recession was less pronounced. Additionally, during the first year of the current recession, the numbers of nonagricultural jobs in the San Antonio MSA and Texas did not contract. During the first year of the recession beginning in 2001, the number of nonagricultural jobs in the San Antonio MSA remained flat and the number of such jobs in Texas contracted by 1.0 percent.

**Table 3-5: Percent Change In Nonagricultural Employment
during Selected National Economic Recessions**

	Year from Start of Recession (Increase/(Decrease))				
Recession (Years)	Year Before	Year Recession Started	Year 1	Year 2	Year 3
1981 (1980 - 1984)					
San Antonio MSA	n.a.	n.a.	n.a.	n.a.	n.a.
State of Texas	4.5%	5.6%	1.3%	(1.1%)	4.8%
United States	0.7	0.8	(1.8)	0.7	4.7
1990 (1989 - 1993)					
San Antonio MSA	n.a.	n.a.	1.0%	3.2%	4.1%
State of Texas	2.4%	3.8%	1.1	1.3	2.9
United States	2.5	1.4	(1.0)	0.3	1.9
2001 (2000 - 2004)					
San Antonio MSA	2.4%	1.1%	0.1%	-0.4%	1.2%
State of Texas	3.0	0.9	-1.0	-0.5	1.4
United States	2.2	0.0	(1.1)	(0.3)	1.1
2007 (2006 - 2008)					
San Antonio MSA	3.8%	2.8%	2.3%	--	--
State of Texas	3.3	3.3	2.1	--	--
United States	1.8	1.1	(0.4)	--	--

n.a. = Not available

Notes: Recessions are determined by the National Bureau of Economic Research.

Represents the year-over-year percent change.

Source: U.S. Department of Labor, Bureau of Labor Statistics, www.bls.gov, accessed June 2009.

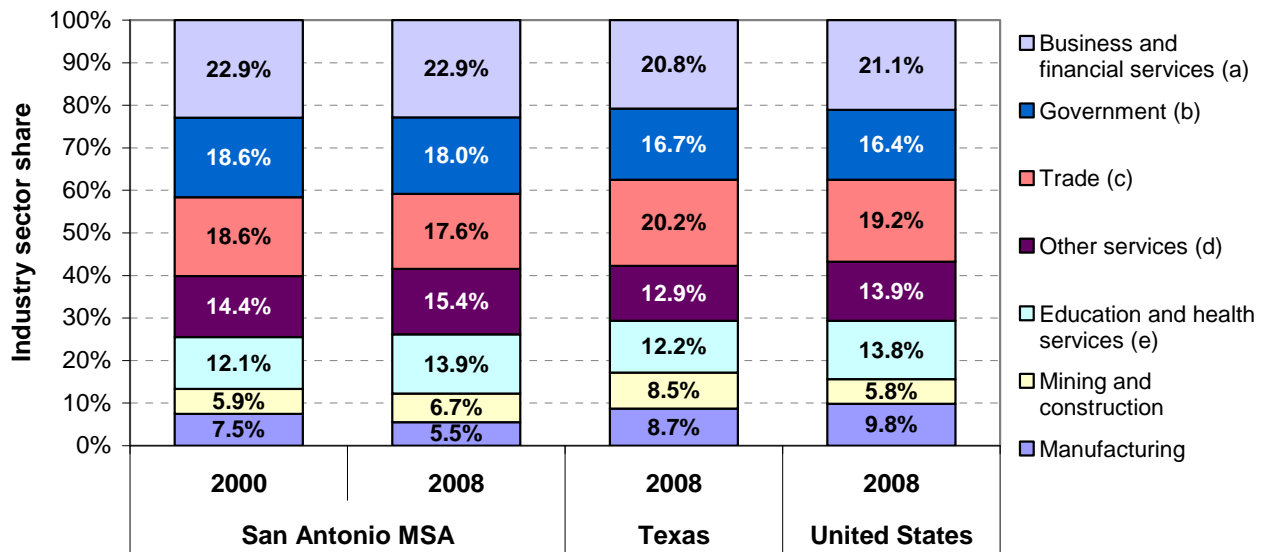
Per Capita Income

Average per capita personal income in the San Antonio MSA has historically been lower than that in the State and the nation. In 2007, the most recent year for which per capita income data were available at the time this report was prepared, the average per capita income in the San Antonio MSA was \$28,109, compared with \$30,798 in the State and \$32,070 in the nation. Average annual growth in per capita income in the San Antonio MSA has, at times, exceeded that of the State and the nation, as was the case between 1990 and 2000, when average annual growth in the San Antonio MSA was 2.4 percent, compared with 2.1 percent for Texas and 1.5 percent for the United States.

Nonagricultural Employment by Industry Sector

Figure 3-3 presents a comparative distribution of nonagricultural employment by industry sector for the San Antonio MSA in 2000 and 2008, and for the State and the nation in 2008. Employment in services (52.2 percent), including education, health, professional, business, and other services, and in trade (17.6 percent) accounted for 69.8 percent of total nonagricultural employment in the San Antonio MSA in 2008. Military personnel involved in national defense activities are included in the government sector, while military personnel working at military hospitals are included in the education and health services sector.

Figure 3-3: Nonagricultural Employment by Industry Sector



(a) Includes professional and business services, financial activity, and information.

(b) Includes military personnel involved in national defense activities.

(c) Includes transportation and public utilities.

(d) Includes leisure and hospitality and other services.

(e) Includes military personnel working at military hospitals.

Source: U.S. Department of Labor, Bureau of Labor Statistics, www.bls.gov, accessed June 2009.

Unemployment Rates

In addition to the employment trends cited above, the unemployment rate is also indicative of general economic conditions. **Table 3-6** presents comparative annual unemployment rates in the San Antonio MSA, the State, and the nation as a whole for 2000 through April 2009. The unemployment rate in the San Antonio MSA was generally lower than the rates in the State and the nation during this period.

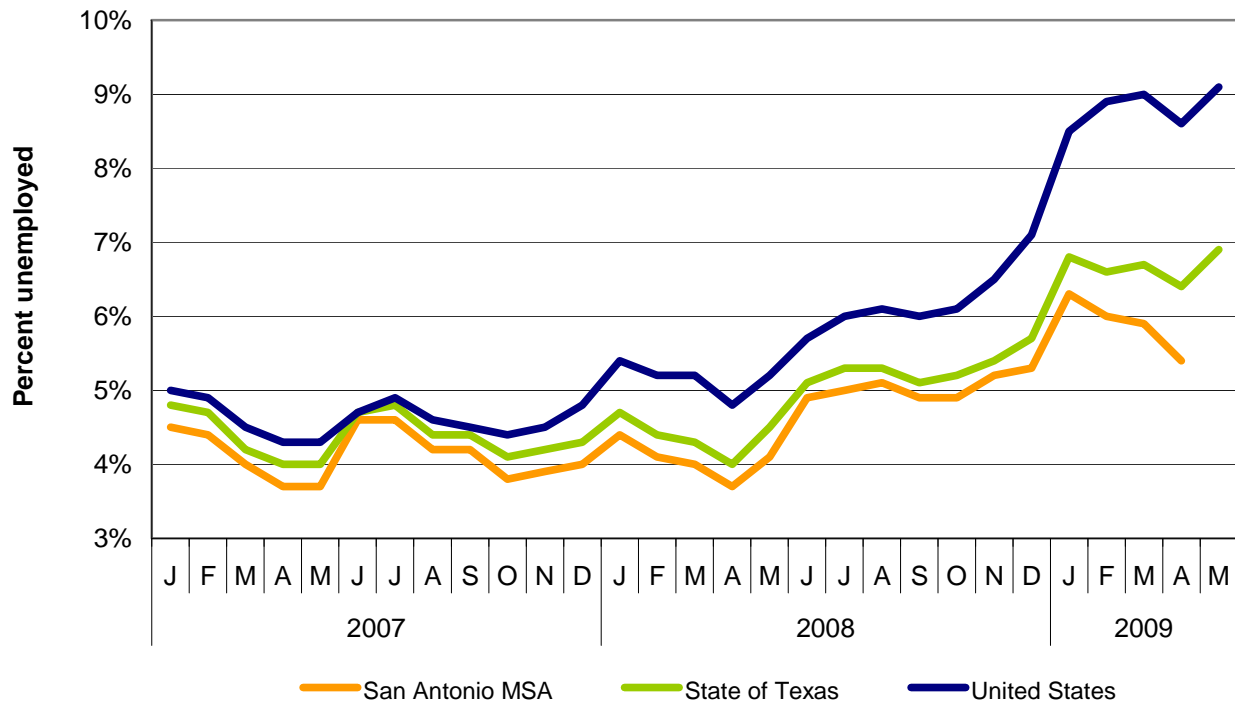
Since the beginning of the current recession in December 2007, monthly unemployment rates in the San Antonio MSA, Texas, and the United States increased, as shown on Figure 3-4. In April 2009, the San Antonio MSA unemployment rate was 5.4 percent, lower than in both the State (6.4 percent) and the nation (8.6 percent).

Table 3-6: Comparative Unemployment Rates

	San Antonio MSA	State of Texas	United States
2000	4.0%	4.4%	4.0%
2001	4.6	5.0	4.7
2002	5.7	6.4	5.8
2003	6.1	6.7	6.0
2004	5.6	6.0	5.5
2005	5.0	5.4	5.1
2006	4.6	4.9	4.6
2007	4.1	4.4	4.6
2008	4.7	4.9	5.8
April 2009	5.4	6.4	8.6

Note: Unemployment rates are for calendar years, were not seasonally adjusted, and represent annual averages
Source: U.S. Department of Labor, Bureau of Labor Statistics, www.bls.gov, accessed June 2009.

Figure 3-4: Monthly Unemployment Rates



Note: Unemployment rates were not seasonally adjusted
Source: U.S. Department of Labor, Bureau of Labor Statistics, www.bls.gov, accessed June 2009.

Major Employers

Table 3-7 lists the largest employers in the San Antonio MSA as of 2008. The list reflects the diversity of the companies and organizations in the region.

Department of Defense

The U.S. Department of Defense (DOD) has a key role in the economy of the San Antonio MSA. The U.S. Army and U.S. Air Force continue to operate installations in the area, including Randolph and Lackland Air Force Bases, as well as Fort Sam Houston and the Brooks City Base. According to the 2006 *Economic Impact Study* prepared for DOD¹, military activity in the San Antonio MSA generated total employment of \$195,075 in 2006, and a total economic impact of \$13.3 billion. These figures include direct employment and spending not only for military employees, but also arising from DOD contracts (both for local and nonlocal work), and the increased business volume at local civilian businesses, as well as from local military retirees living in the area. These more indirect forms of economic impact are material; in 2006, roughly as many people were employed by contractors working with the DOD as were employed by the military itself.² Through military base contracts, contracts outside the San Antonio MSA, and spending of military personnel, the DOD has affected every industry sector in the San Antonio MSA. The most pronounced effects have occurred in manufacturing, real estate, health care, and retail.

Table 3-7: Top 20 Largest Nonmilitary Employers in the San Antonio MSA 2008

Employer	Product or Service	Number of Employees in the San Antonio MSA
USAA	Financial services	14,852
Methodist Health Care System	Health care	7,013
Baptist Health System	Health care	5,939
Valero Energy Corp.	Petroleum	3,777
Wachovia Bank	Financial services	3,310
Sea World San Antonio	Attractions	3,000
Six Flags Fiesta Texas	Attractions	3,000
Southwest Research Institute	Research and development	2,750
JPMorgan Chase	Financial services	2,500
Kinetic Concepts	Medical technology	2,156
Toyota Motor Manufacturing Texas	Auto manufacturing	2,000
Caremark RX Ltd.	Prescription benefits	1,650
The Boeing Co.	Aircraft maintenance	1,540
Security Service Federal Credit Union	Financial services	1,299
DPT Laboratories Ltd.	Contract drug development	1,275
Goodwill Industries of San Antonio	Retail	1,016
SWBC	Insurance, financial services	1,006
Wells Fargo & Co.	Financial services	920
Humana Health Plans of Texas	Health care	770
YMCA of Greater San Antonio	Charitable organization	726

Note: Frost National Bank, Gunn Automotive, AT&T Inc., Christus Santa Rosa Health Care, Bank of America, McCombs Automotive Group, and World Savings Bank did not respond to the survey in time for inclusion.

Source: 2009 San Antonio *Book of Lists*.

¹ "Economic Impact of the U.S. Department of Defense in San Antonio, 2006. Prepared for the Military Transformation Task Force and the Office of Military Affairs by the City of San Antonio, Economic Development Department, Economic Analysis and Coordination Division.

² In 2006, Department of Defense contractors employed 44,423 people in the San Antonio MSA, while the military itself employed 44,255 people.

In 2005, significant nationwide changes regarding military administration and operation were adopted as part of the Base Realignment and Closure Act (BRAC) process. The San Antonio MSA is positioned to benefit from these changes, as significant resources are being shifted from other parts of the country to San Antonio; in 2006, it was estimated that 4,000 new personnel would be relocating to San Antonio between 2006 and 2011, and that the cost for constructing the infrastructure required to support them (and their families) during this period would amount to \$2.1 billion. These initial estimates have since been reevaluated: the number of new personnel relocating to San Antonio has increased to 12,500 and the related construction cost has risen to \$2.8 billion, according to a bulletin released by the DOD in March 2009. The number of relocated personnel is more than three times the personnel investment and two and a half times the capital investment made by Toyota when it opened its new automobile manufacturing facility in San Antonio in 2006. Nearly all of this new development is taking place at Fort Sam Houston, where 1,656 additional military personnel had relocated as of the end of 2008. Many of the new jobs created in San Antonio require highly skilled labor. Fort Sam Houston is known as the “Home of Army Medicine” and is recognized as the largest and most important military medical training facility in the world. Of the 12,500 new positions to be created between 2006 and 2011 at Fort Sam Houston, nearly 7,000 will be related to the medical field, including 2,130 new positions at the San Antonio Military Medical Center.

It is worth noting that staff numbers at some military installations will decrease as a result of BRAC; in total, nearly 4,000 military and civilian employees will be lost, largely from Brooks City Base and Lackland Air Force Base. Regardless, the net increases in employment and investment (in terms of construction) will represent one of the largest single drivers of economic growth ever experienced in the San Antonio area.

3.3.2 San Antonio Industry Sectors

The City of San Antonio’s Economic Development Department has identified several industry sectors that are central to the economy of the San Antonio MSA and that the Department is actively seeking to develop further. These sectors include: health care/bioscience, information technology, and aerospace. The Chamber of Commerce prepares economic impact studies for each of these sectors on a regular basis; the most recent studies prepared for health care/bioscience and aerospace were completed in 2007 and the most recent study prepared for information technology was completed in 2005. When the most recently available employment data for each sector are added together, total employment in the three industry sectors was approximately 137,000 jobs. These sectors require skilled labor and offer higher average pay than other sectors; the average employee in each of the three industry sectors earns more than the average wage.

The following sections present additional information on each of these industry sectors.

Health Care/Bioscience

San Antonio’s health care and bioscience industries together employ 116,417 people and contributed an estimated \$16.3 billion to the economy of the San Antonio MSA. Services in this sector include, but are not limited to, care provided in:³

³ Information was taken from *2007 Economic Impact Study* for health care and bioscience Industries in the greater San Antonio area prepared by the Greater San Antonio Chamber of Commerce.

- Hospitals
- Physician's offices
- Nursing homes
- The offices and clinics of other health care providers
- Health insurance providers
- Pharmaceutical companies
- Medical equipment producers and wholesalers
- Biomedical research organizations

Between 1997 and 2007, over 23,000 net new jobs were added in these sectors. According to the most recent economic impact study, these industries have collectively doubled in size between 1997 and 2007. As mentioned previously, the presence of the military in the San Antonio MSA affects many industries; this is especially true of health care. Not included in the above-mentioned economic impact data are uniformed military staff working at San Antonio area hospitals, including Wilford Hall Medical Center and Brooke Army Medical Center. Also not included are military personnel stationed at Brooks City Base, nor the faculty and staff at the University of Texas Health Science Services Center. Collectively, these personnel account for more than 12,000 additional personnel working in this industry sector.

San Antonio continues to attract new health care/bioscience companies. In 2009, Medtronics announced the opening of a new Diabetes Therapy Management and Education Center in San Antonio; the company intends to hire 1,400 people to staff the new center.

Information Technology

Information technology has a considerable presence in the San Antonio economy. In 2005, the information technology companies employed 11,283 people and had an annual economic impact of \$5.3 billion. Information technology in San Antonio tends to be specialized in information security, according to the most recent economic impact study released for the industry. The demands of this field require a high level of specialization and skill; personnel working in this industry earned an average of \$55,992 in 2005, 60 percent above the San Antonio average of \$35,801.

Similar to the health care/bioscience industries, companies working in information technology continue to establish operations in San Antonio. Microsoft opened a new data center in San Antonio in September 2008, which houses many of its web-based applications and programs. Additionally, in 2009, Affiliated Computer Services added 300 jobs at a new 74,000-square-foot facility at the Port of San Antonio, a commercial development center and cargo airport located at the site of the former Kelly Air Force Base, which was closed in 1995.

Aerospace

Aerospace has long been a significant economic component of the San Antonio MSA. Taken as a whole, the industry employed 9,438 people and had an economic impact of \$3.8 billion in 2007, according to the most recent economic impact study for the aerospace industry in the San Antonio area.⁴

⁴ Information was taken from *2007 Economic Impact Study for Aerospace Industries* in the greater San Antonio area prepared by the Greater San Antonio Chamber of Commerce.

The aerospace industry consists of two components: services/manufacturing and transportation. Much of the transportation component of this industry is accommodated at the Airport. The most recent economic impact study prepared for the aerospace industry in San Antonio indicates that total employment in the transportation component of the aerospace industry was 5,351 in 2007. This represents 57 percent of the total employment in the industry, which was 9,438 in 2007.

The services and manufacturing component of the industry includes the manufacturing of aircraft components and parts; the servicing, repair, and refurbishment of aircraft; and the operation of flight schools. Companies specializing in these services are not only located at the Airport, but are located throughout the San Antonio MSA, at airports and at military bases.

The aerospace industry as a whole has been affected by the recession, but many aerospace companies in the San Antonio MSA are maintaining a steady presence, according to the San Antonio Economic Development Department.

3.3.3 Tourism

Tourism is a significant industry in the San Antonio MSA. The area is home to such attractions as the Alamo, Sea World, Six Flags Fiesta Texas, and the River Walk, among others. In part because of these attractions, the San Antonio MSA is host to a number of large conventions, as well as a substantial amount of visitor traffic in connection with the DOD and its operations in the San Antonio area.

Average hotel occupancy in the San Antonio area during the first 5 months of 2009 was 56.8 percent; a decrease of 14.4 percent during the same period of 2008. This occupancy rate was higher than in the United States during the same period, which averaged 53.3 percent.

Similarly, the number of room nights sold also decreased. The average number of room nights sold during the first 5 months of 2009 decreased 9.1 percent compared with the number sold during the same period of 2008. The national rate of decrease in room nights sold was 8.3 percent.

The lower number of room nights sold reflects a decline in bookings at locations such as the Convention Center, where there are currently 87 definite group bookings for 2009 and 435,087 room nights reserved, compared with 105 definite group bookings and 509,705 room nights reserved in 2008.

Although bookings declined from 2008 to 2009, advance bookings for 2010 appear strong, with advanced definite room night bookings totaling 602,474, outpacing the number of 477,746 advanced room night bookings targeted as of June 1, 2009.

3.3.4 Economic Outlook

Economic activity in the San Antonio MSA and in Texas is directly linked to the production of goods and services in the rest of the United States. Both airline travel and the movement of cargo through the Airport depend on the economic linkages between the regional, State, and national economies.

U.S. Economy

While the short-term economic outlook is negative, the U.S. economy exhibits a generally favorable medium- and long-term outlook through 2015. The U.S. economy was affected by a contraction in the real estate markets combined with a surge in energy and other commodity prices in 2006. As the economy weakened, financial markets began to show signs of stress during summer 2007, as the value of investment securities and other financial assets that were backed by real estate properties were adversely affected by the decline in real estate prices. During the first half of 2008, mortgage-related problems with some large investment and commercial banks triggered a financial crisis in the United States. In October 2008, Congress passed the Emergency Economic Stabilization Act of 2008, which provided for a government bailout of troubled banks.

During the second half of 2008, the key indicators of U.S. economic performance showed significant changes. U.S. Gross Domestic Product (GDP) decreased at a seasonally adjusted annual rate of 0.5 percent during the third quarter of 2008, followed by a 6.3 percent decrease in the fourth quarter of 2008. The national unemployment rate increased from 5.8 percent in July 2008 to 7.2 percent in December 2008, reflecting the loss of 2.2 million U.S. jobs during the second half of 2008. Crude oil prices fell from a peak of \$147 per barrel in July 2008 to \$40 per barrel in December 2008, contributing to declines in consumer prices. U.S. industries reported significant financial losses and announced employee layoffs in the second half of 2008. In December 2008, Congress approved \$17.4 billion in loan guarantees for the U.S. automobile industry to mitigate the challenges of the credit crisis and the global slowdown in car sales.

Overall U.S. economic activity during the first quarter of 2009 continued to contract. U.S. GDP decreased at a seasonally adjusted annual rate of 5.7 percent during the first quarter of 2009, accompanied by an increase in the national unemployment rate to 8.5 percent in March 2009. Oil prices remained low and downward pressure on consumer prices continued. During the first quarter of 2009, an additional 2.1 million U.S. jobs were lost.

The financial crisis was one of the triggers of the U.S. recession, the depth and duration of which will be influenced by a number of factors, such as the magnitude of the decline in the real estate sector and its effects on the rest of the economy, the degree of inflationary pressures that increased during 2008 and 2009, changes in the fiscal and trade deficits, and the relative strength of the U.S. dollar versus other currencies. The spillover effects from the U.S. recession and financial crisis also weakened the economies of other countries. In April 2009, the International Monetary Fund (IMF) declared a global economic recession, the fourth since World War II, as real per capita world GDP declined, supported by a review of other global macroeconomic indicators, such as industrial production, trade, capital flows, oil consumption, and unemployment. Based on a review of these indicators, the IMF forecasts a 2.5 percent decrease in real per capita world GDP in 2009.

The Congressional Budget Office (CBO) prepared economic projections in January 2009 and updated those projections in March 2009 to reflect larger than anticipated decreases in employment, business fixed investment, and production, as well as further weakness in foreign economies. In March 2009, the CBO projected that a recovery would begin to take hold in late 2009 and quicken in 2010, as the drawdown of inventories ends, housing investment begins to recover, and business investment responds to the improvement in overall economic activity. In addition to reflecting worsening economic conditions, the CBO's March 2009 projections also incorporated the mid-range estimates of the American Recovery and Reinvestment Act's

(ARRA) effects on GDP and employment (whereas the January projections did not reflect consideration of the effects). The CBO's March 2009 projections were based on the assumption that the Federal Reserve and the Treasury, along with the Federal Deposit Insurance Corporation, would continue to address the problems in financial markets.

Since the March 2009 projections were prepared, the CBO has re-evaluated the developments in the financial system and the economy and determined that the initial stages of the economic recovery are likely to be more moderate than projected. In May 21, 2009, testimony to the U.S. Congress, the CBO noted that its March projection of 2.9 percent growth in real (inflation-adjusted) GDP in 2010 was more optimistic than the current consensus, as was the CBO's projection for a peak unemployment rate of about 9.5 percent. The CBO is now beginning the process of updating its March 2009 projection and will release a new projection in August 2009.⁵ For the purposes of this Master Plan, the CBO projections for January and March 2009 are presented in **Table 3-8**, recognizing that the projections for 2010 will be updated. The CBO projections in 2009 reflect:

- A marked contraction in the U.S. economy in 2009, with real (inflation-adjusted) GDP decreasing 3.0 percent.
- Based on the CBO's preliminary May 21, 2009, reassessment, an unemployment rate that was expected to continue to increase in the second half of 2009, reaching a peak above 10 percent.
- A continued decline in inflation, both because energy prices have decreased and because inflation, excluding energy and food prices, tends to ease during and immediately after a recession. The CBO anticipated that inflation, as measured by the consumer price index for all urban consumers (CPI-U), would decrease 0.7 percent in 2009.

The CBO does not predict cyclical movements in the U.S. economy beyond 2010. Therefore, the CBO projections for 2009 through 2015 reflect its near-term projections for 2009 and 2010 and its long-term expectations for economic growth. As shown in Table 3-8, the CBO projections in the long-term (from 2008 through 2015) reflect:

- Real GDP increasing an average of 2.6 percent per year from 2008 through 2015.
- Inflation averaging 1.0 percent annually from 2008 through 2015, well below the historical average of 3.5 percent. While U.S. inflation has trended up from 2003 to 2008 mostly as a result of high global demand for commodities, reaching 4.4 percent in 2008, the recession is expected to result in lower inflation from 2010 through 2015.

Table 3-8 also presents a comparison of the CBO projections with the forecasts presented in the *Blue Chip* Consensus and the Federal Reserve Board (FRB), Federal Open Market Committee (FOMC) projections published on April 28-29, 2009. The *Blue Chip* Consensus is the average of about 50 forecasts by private-sector economists. The FOMC economic projections reflect the input of its participants based on their assumptions regarding factors likely to affect economic outcomes and appropriate monetary policy and are expressed as a range of potential outcomes in Table 3-8. Consistent with the March 2009 CBO projections, both the *Blue Chip* Consensus forecasts and the FRB projections reflect the effects of fiscal stimulus and

⁵ The Congressional Budget Office, *The State of the Economy*, Testimony presented by Douglas W. Elmendorf, Director, to the U.S. House of Representatives, May 21, 2009.

Federal Reserve measures to provide support to credit markets. The long-term growth rates for the three projections/forecasts (through 2015) do not include assumptions regarding further economic and other shocks.

**Table 3-8: Economic Projections/Forecasts for the U.S. Economy
2008-2015**

	Average Annual Percent Increase (Decrease)			
	Historical	Projected/Forecast		
	1980-2008	2008-2009	2009-2010	2008-2015
Real GDP				
CBO (March 2009)	3.0%	(3.0%)	2.9%	2.6%
CBO (January 2009)		(2.2)	1.5	2.6
Blue Chip Consensus		(2.6)	1.9	2.1
FOMC		(2.5) – (0.5)	1.5 – 4.0	2.4 – 3.0
CPI-U				
CBO (March 2009)	3.5%	(0.7%)	1.4%	1.0%
CBO (January 2009)		0.1	1.7	1.7
Blue Chip Consensus		(0.8)	1.6	1.8
Calendar Year Average Percent				
	Historical	Projected/Forecast		
	1980-2008	2008-2009	2009-2010	2008-2015
Unemployment rate				
CBO (March 2009)	6.1% (a)	8.8%	9.0%	4.9% (b)
CBO (January 2009)		8.3	9.0	4.9 (b)
Blue Chip Consensus		8.6	9.1	6.3 (c)
FOMC		9.1 – 10.0	8.0 – 9.6	4.5 – 5.3
3-Month Treasury Bill rate				
CBO (March 2009)	5.6% (a)	0.3%	0.9%	4.7% (b)
CBO (January 2009)		0.2	0.6	4.7 (b)
Blue Chip Consensus		0.3	1.1	4.0 (c)
10-Year Treasury Note rate				
CBO (March 2009)	7.4% (a)	2.9%	3.4%	5.4% (b)
CBO (January 2009)		3.0	3.2	5.4 (b)
Blue Chip Consensus		2.9	3.7	5.2 (c)

Note: The Blue Chip Consensus is the average of about 50 forecasts by private-sector economists.

CBO= Congressional Budget Office

CPI-U = Consumer Price Index for all urban consumers

FOMC = Federal Reserve Board, Federal Open Market Committee

GDP= Gross Domestic Product

(a) Represents the average from 1980 through 2008.

(b) Level in 2015.

(c) Represents the annual average from 2012 through 2015.

Sources: Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2009-2019*, January 8, 2009, and *A Preliminary Analysis of the President's Budget and An Update of the CBO's Budget and Economic Outlook*, March 2009. Federal Reserve Board, Federal Open Market Committee, *Summary of Economic Projections*, April 28-29, 2009.

San Antonio Area Economy

The economy of the San Antonio area has been affected by the nationwide recession, but appears to be slightly more stable than the economies of other large communities in Texas.

The *April 2009 Quarterly Economic Forecast*, published by The Greater San Antonio Chamber of Commerce, presents a business cycle index consisting of changes in sales tax revenues, consumer confidence, dominant employment jobs, single-family residential construction permits, residential permit evaluations, and average new home prices. During the first quarter of 2009, San Antonio tracked higher than Austin, Dallas, and Fort Worth, but slightly behind Houston.

Table 3-9 presents a comparison of socioeconomic projections for the San Antonio MSA and the State of Texas for 2008 through 2015. The rate of population growth in the San Antonio MSA is projected to gradually decline to 1.6 percent from a historical growth rate of approximately 2.0 percent, while population growth in the State is projected to remain near the historical rate of 2.0 percent. The average annual growth rate for nonagricultural employment in the San Antonio MSA is projected to decline to 2.2 percent from a historical average of approximately 2.5 percent, but it is projected to remain above the projected 2.0 percent growth rate for Texas. Total personal income projections for the San Antonio MSA are not available, although historically personal income growth has been similar to the State's growth rate, which is projected to remain stable at approximately 1.7 percent after a short-term decline from 2008 through 2010.

Also presented on Table 3-9 are the historical and projected growth rates for Gross State Product (GSP), which is equivalent to the total value of all goods and services produced in the State. GSP increased an annual average of approximately 4.2 percent from 1980 through 2008, which is considerably higher than the 3.0 percent growth rate for U.S. GDP over the same period (see Table 3-8). The GSP growth rate is expected to decline to approximately 1.8 percent per year from 2008 through 2010, which is similar to the projected decline in U.S. GDP. GSP is then projected to grow an average of 3.3 percent per year from 2008 through 2015.

**Table 3-9: Comparison of Socioeconomic Projections
for the San Antonio MSA and Texas**

	Average annual percent change		
	Historical 1990-2008	Projections 2008-2010	2008-2015
Population			
San Antonio MSA	2.0	1.8	1.6
State of Texas	2.0	1.9	2.0
Nonagricultural employment			
San Antonio MSA	2.5	n.a.	2.2
State of Texas	2.3	0.5	2.0
Total personal income			
San Antonio MSA	1.7	n.a.	n.a.
State of Texas	1.7	1.1	1.7
Gross State Product (a)	4.2	1.8	3.3

(a) Reflects the average annual increase from 1991 through 2008.

Sources: Texas Workforce Commission, Labor Market & Career Information Department; The University of Texas at San Antonio, Institute for Demographic and Socioeconomic Research released February 2, 2009; U.S. Department of Labor, Bureau of Labor Statistics at www.stats.bls.gov; U.S. Department of Commerce, Bureau of the Census at www.census.gov/popest/estimates.php; The Federal Reserve Bank of Dallas; Bureau of Economic Analysis at www.bea.gov released March 2009; Susan Combs, Texas Comptroller of Public Accounts, and IHS Global Insight, Inc.

3.3.5 Summary

The descriptions of the various economic and demographic indicators discussed above collectively describe the San Antonio MSA as a large and mature economic region capable of producing significant demand for air transportation services. In terms of population, nonagricultural employment, and per capita income growth, the San Antonio MSA has generally outpaced the historical growth in Texas and the United States. In addition, historical growth in GSP in Texas has increased at a significantly higher rate than national GDP. The San Antonio MSA also includes a large and diversified commercial and industrial base with a significant presence of growing industry sectors, such as health care/bioscience, information technology, and aerospace. The U.S. military also contributes significantly to the economy of the San Antonio MSA in terms of employment, spending, and investment, which are expected to grow in the near-term.

Projections of these key economic and demographic variables indicate an expected short-term decline in growth from 2008 through 2010 as a result of the national economic recession. Over the longer term, growth in all of these variables is expected to rebound and produce average growth at or slightly below their long-term historical averages. The exception is GSP growth, which is projected to decrease to 3.3 percent average annual growth from its historical average of 4.2 percent annual growth.

The historical trends and projections for the key economic variables discussed above were used in the general development of the aviation demand forecasts. The results of these analyses do not provide a direct one-for-one link between growth of an individual economic variable or group of variables and the forecast elements. For example, in this Master Plan, we have not attempted to directly link the projected growth in population to forecasts of enplaned passengers. Instead, the trends in economic variables were compared with the trends in aviation demand in an attempt to discover general relationships between the two and identify reasonable indicators of growth in future aviation activity. The primary reason for this comparison is that innumerable outside influences affect the results of the forecasts. Events such as economic recessions, military conflicts, use of new technology, widespread health issues, etc., cannot be predicted with certainty and, therefore, the results of the economic analyses were used as a guideline and not a precise predictor of future aviation demand.

3.4 HISTORICAL AVIATION DEMAND

This section describes historical aviation demand, and includes an analysis of airlines serving the Airport; enplaned passengers; trends in enplaned passengers, load factors, and seats per departure; airline shares of passengers; origin-destination markets for domestic and international passengers; airline service; airline fares and yields; air cargo tonnage; and aircraft operations.

3.4.1 Airlines Serving the Airport

As of June 2009, the Airport was served by 13 mainline airlines and 11 regional affiliates. All five major U.S. airlines serve the Airport, as do several of the nation's more prominent low cost carriers (LCCs), particularly Southwest Airlines. Mainline airlines publish their own schedules and usually operate larger narrowbody aircraft, while their regional affiliates operate smaller aircraft typically on behalf of mainline airlines. Regional affiliates are often contracted by

mainline airlines to fly a limited flight schedule to smaller cities that cannot support service by larger narrowbody aircraft, supplement narrowbody aircraft service on routes that require higher scheduled flight frequencies, and provide point-to-point service to larger cities. Several of the mainline airlines and regional affiliates serving SAT operate under foreign flags, namely Aeromexico, Mexicana de Aviacion, Aeromexico Connect, and Aeromar. These airlines provide the only scheduled nonstop service to Mexico from SAT. A detailed listing of airlines serving the Airport is provided in **Table 3-10**.

**Table 3-10: Passenger Airlines Serving San Antonio
June 2009**

Mainline	Regional
Aeromexico (a)	Aeromexico Connect (b)
AirTran Airways	Atlantic Southeast Airlines (c)
American Airlines	Chautauqua Airlines (d)
Continental Airlines	Compass Airlines (e)
Delta Air Lines	ExpressJet Airlines (f)
Frontier Airlines	GoJet Airlines (e)
Mexicana de Aviacion	Mesa Airlines (e)(g)
Southwest Airlines	Pinnacle Airlines (c)
Aeromar	Republic Airlines (g)
United Airlines	SkyWest Airlines (c)(e)
US Airways (a)	Shuttle America (e)
Charter	
Sun Country Airlines	

(a) These airlines are the published operators; however, only their regional affiliates provide service at SAT.

(b) Affiliated with Aeromexico.

(c) Affiliated with Delta Air Lines.

(d) Affiliated with American Airlines.

(e) Affiliated with United Airlines.

(f) Affiliated with Continental Airlines.

(g) Affiliated with US Airways.

Source: Official Airline Guides, Inc., accessed June 2009.

3.4.2 Enplaned Passengers

Enplaned passengers represent one of the single largest drivers in the master planning process for any airport. **Table 3-11** and **Figure 3-5** present numbers of enplaned passengers at the Airport in 1990 through 2008. The peak years for enplaned passengers at the Airport were 1990, 2000, and 2008, which preceded the past three U.S. recessions. As shown in Table 3-11, in 2008, 4,167,440 passengers were enplaned at the Airport. San Antonio is defined by the FAA as a medium hub, which means that enplaned passengers in that community account for between 0.25 percent and 1.00 percent of total nationwide enplaned passengers. The number of passengers enplaned at medium-hub airports ranged between 1.9 million and 7.2 million in 2007. SAT's enplaned passenger numbers in 2007 and 2008 rank the Airport in the middle of this category.

The Airport has recorded a long-term trend of moderate enplaned passenger growth, including intermittent periods where traffic declined for a short period before resuming its long-term growth trend. Numbers of enplaned passengers at SAT have a history of recovering quickly

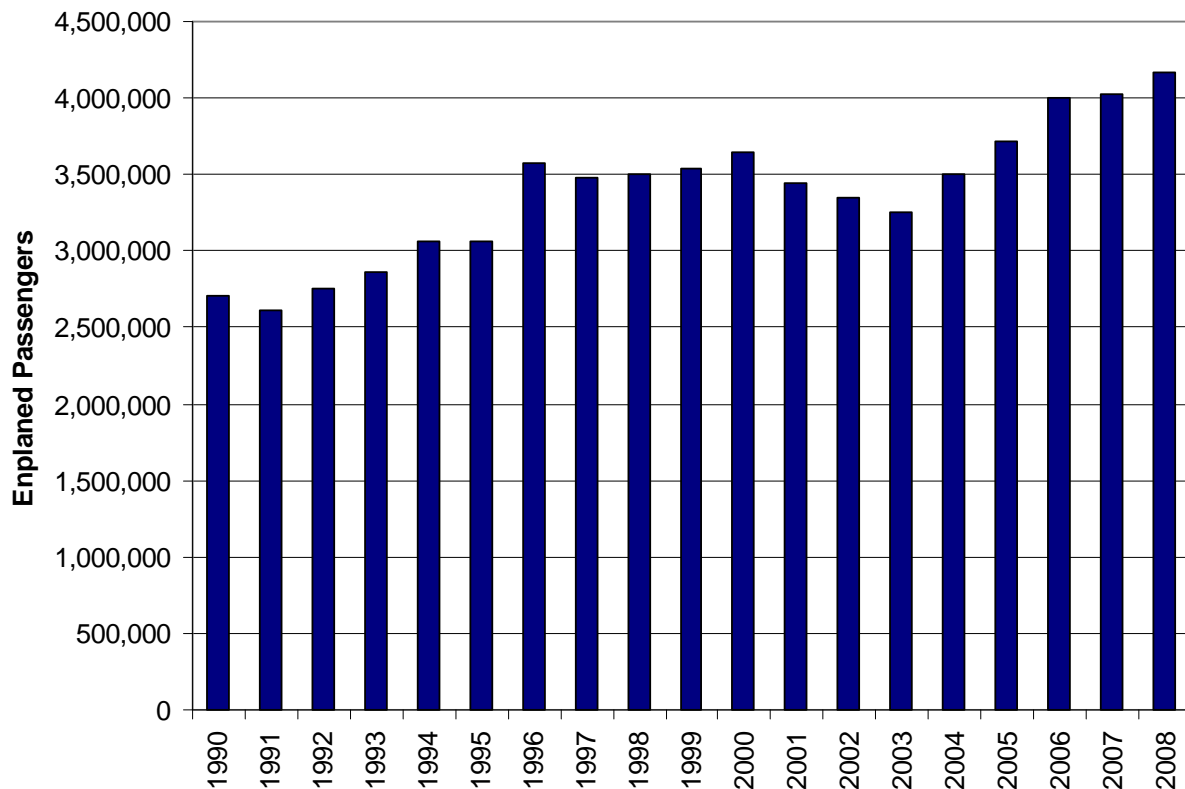
from these periodic declines, which typically resulted from economic recessions, wars, or other major national events. For example, the total number of enplaned passengers declined in 1991 because of the Gulf War and associated recession, but quickly rebounded in 1992 to surpass 1990 levels. Similarly, following 3 years of decline in 2001 through 2003 (following the September 11, 2001, terrorist attacks), the number of enplaned passengers at the Airport began rebounding in 2004 and surpassed the 2000 number in 2005.

**Table 3-11: Historical Enplaned Passengers
San Antonio International Airport**

Year	Enplaned Passengers	Annual Average Increase (Decrease)
1990	2,711,014	--%
1991	2,606,403	(3.9)
1992	2,751,043	5.5
1993	2,860,225	4.0
1994	3,064,768	7.2
1995	3,058,536	(0.2)
1996	3,568,328	16.7
1997	3,484,141	(2.4)
1998	3,505,372	0.6
1999	3,538,243	0.9
2000	3,647,094	3.1
2001	3,444,875	(5.5)
2002	3,349,283	(2.8)
2003	3,250,911	(2.9)
2004	3,498,972	7.6
2005	3,713,845	6.1
2006	4,002,903	7.8
2007	4,030,571	0.7
2008	4,167,440	3.4
First 4 months		
2008	1,327,350	--%
2009	1,232,689	(7.1)
Average Annual Percent Increase		
1990-2000	3.0%	
2000-2008	1.7	
1990-2008	2.4	

Source: City of San Antonio Aviation Department records.

Figure 3-5: Historical Enplaned Passengers



Source: City of San Antonio Aviation Department records.

Table 3-12 shows average annual growth in numbers of enplaned passengers at the Airport and in the nation as a whole between 1990 and 2000, 2000 and 2008, and 1990 and 2008. Between 1990 and 2000, the number of enplaned passengers at the Airport grew at a slower rate (3.0%) than the number of passengers in the nation (3.9%). Between 2000 and 2008, SAT enplaned passengers increased an average of 1.7 percent per year, faster than the national average of 1.1 percent per year over the same period. From 1990 through 2008, SAT and the United States recorded similar annual average growth rates of 2.4 percent and 2.6 percent, respectively.

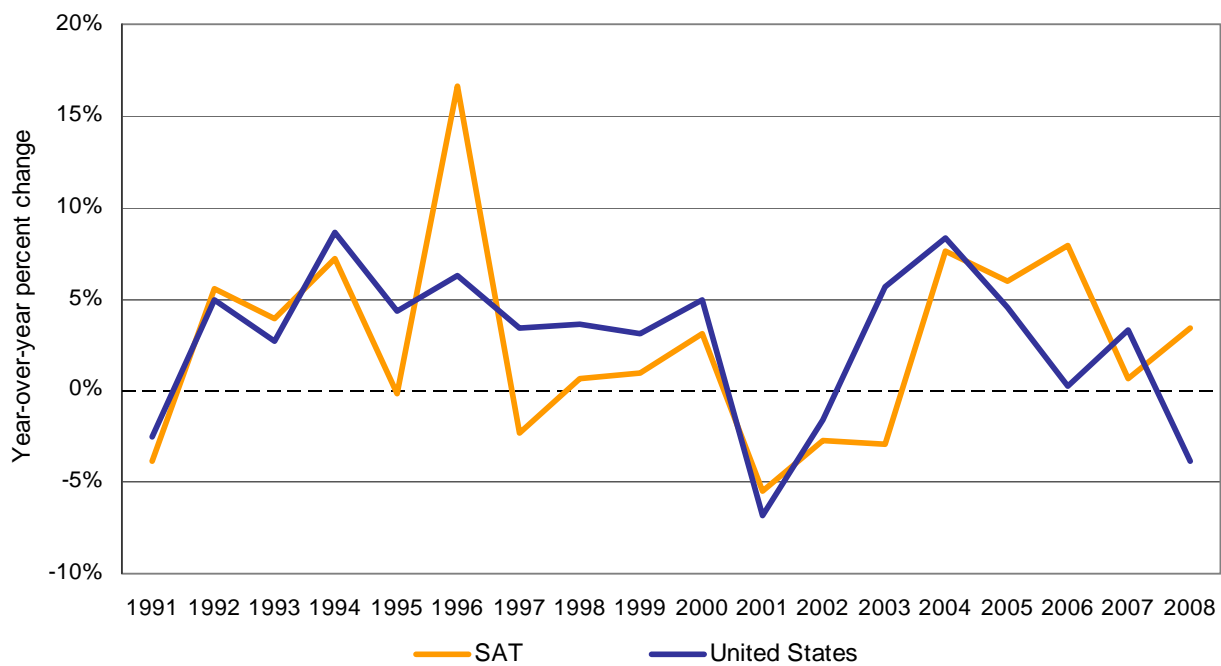
**Table 3-12: Average Annual Growth in Enplaned Passengers
San Antonio International Airport and the United States**

	SAT	United States
1990-2000	3.0%	3.9%
2000-2008	1.7	1.1
1990-2008	2.4	2.6

Sources: City of San Antonio Aviation Department records and U.S. Department of Transportation T100 Database.

Figure 3-6 shows the year-over-year rates of growth in enplaned passengers between 1990 and 2008 for SAT and the nation as a whole. The two follow a similar growth pattern over this historical period with a few variances. The most notable variance is a large spike in traffic at the Airport in 1996 caused by an increase in service at SAT by Southwest Airlines, American Airlines, and Delta Air Lines. Since approximately 2005, the Airport has generally performed better than the nation as a whole, largely as the result of new entrant airlines, such as AirTran Airways, Frontier Airlines, Spirit Airlines, and ExpressJet Airlines, initiating service at SAT during this period. ExpressJet began operations at SAT as an independent airline while continuing to serve as an affiliate of Continental Airlines under the Continental Express brand name. ExpressJet (as an independent airline) and Spirit Airlines have subsequently ceased operations at the Airport, but AirTran Airways and Frontier Airlines remain.

Figure 3-6: Year-Over-Year Changes in Enplaned Passengers

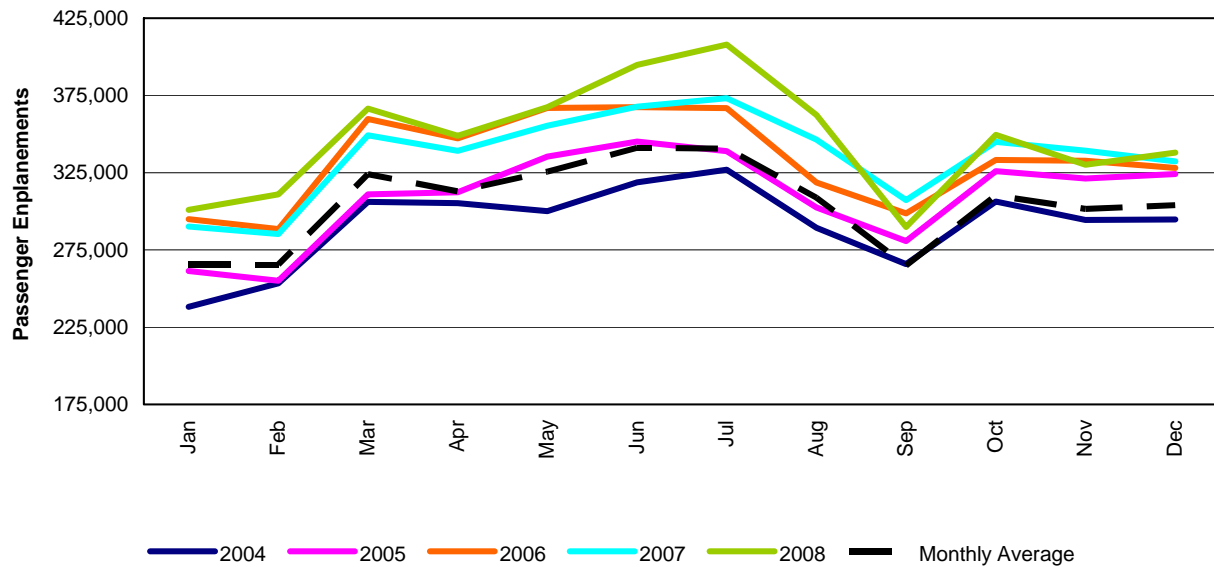


Sources: City of San Antonio Aviation Department records and U.S. Department of Transportation T100 Database.

3.4.3 Monthly Trends in Enplaned Passengers

Table 3-13 and **Figure 3-7** show the shares of total annual enplaned passengers at the Airport by month for 2004 through 2008. The monthly data show the seasonal variation in enplaned passenger traffic, with peak levels typically occurring in June and July. Figure 3-7 shows that, regardless of annual passenger levels, the peaking pattern at the Airport has generally been consistent, with only moderate seasonal variation.

Figure 3-7: Monthly Trends in Enplaned Passengers



Source: City of San Antonio Aviation Department records

Table 3-13: Monthly Enplaned Passengers as a Percent of Total

Month	2004	2005	2006	2007	2008	Average by Month
January	6.8%	7.0%	7.4%	7.2%	7.2%	7.1%
February	7.2	6.9	7.2	7.1	7.5	7.2%
March	8.7	8.4	9.0	8.7	8.8	8.7%
April	8.7	8.4	8.7	8.4	8.4	8.5%
May	8.6	9.0	9.2	8.8	8.8	8.9%
June	9.1	9.3	9.2	9.1	9.5	9.2%
July	9.3	9.1	9.2	9.3	9.8	9.3%
August	8.3	8.1	8.0	8.6	8.7	8.3%
September	7.6	7.6	7.5	7.6	7.0	7.4%
October	8.8	8.8	8.3	8.6	8.4	8.5%
November	8.4	8.6	8.3	8.4	7.9	8.3%
December	8.4	8.7	8.2	8.2	8.1	8.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	

Note: Columns may not add to totals shown because of rounding

Source: City of San Antonio Aviation Department records

3.4.4 Trends in Load Factors and Average Seats per Departure

Enplaned passenger trends at an airport may not tell the complete story regarding service by tenant airlines; numbers of aircraft operations and the average size of aircraft serving the airport have not necessarily increased, even if numbers of enplaned passengers have increased. **Table 3-14** presents historical data on enplaned passengers, scheduled departing seats, and aircraft departures, as well as load factors and average seats per departure. Data for passengers, scheduled departing seats, and scheduled departures are provided for 2000 through 2008 and the first 4 months of 2009, and are presented on an average daily basis.

**Table 3-14: Average Daily Enplaned Passengers,
Flight Schedule Characteristics and Metrics**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009 (a)
Average Daily Passengers										
Southwest Airlines	3,476	3,392	3,242	3,136	3,428	3,546	3,889	3,884	3,975	3,865
Other Airlines	6,489	6,047	5,934	5,771	6,132	6,629	7,078	7,159	7,411	6,408
Airport Total	9,965	9,439	9,176	8,907	9,560	10,175	10,967	11,043	11,386	10,273
Average Daily Scheduled Departing Seats										
Southwest Airlines	5,698	5,688	5,898	5,679	5,649	5,613	6,121	6,199	6,501	6,396
Other Airlines	9,412	9,021	8,316	8,149	8,109	8,805	9,113	9,487	9,408	8,162
Airport Total	15,110	14,709	14,214	13,828	13,758	14,418	15,234	15,686	15,909	14,558
Average Daily Scheduled Aircraft Departures										
Southwest Airlines	43	43	45	44	43	42	46	46	48	47
Other Airlines	75	70	69	74	79	81	87	91	88	75
Airport Total	118	113	114	118	122	123	133	137	136	122
Load Factors										
Southwest Airlines	61.0%	59.6%	55.0%	55.2%	60.7%	63.2%	63.5%	62.7%	61.1%	60.4%
Other Airlines	68.9%	67.0%	71.4%	70.8%	75.6%	75.3%	77.7%	75.5%	78.8%	78.5%
Airport Average	65.9%	64.2%	64.6%	64.4%	69.5%	70.6%	72.0%	70.4%	71.6%	70.6%
Average Seats per Departure										
Southwest Airlines	133	132	131	129	131	134	133	135	135	136
Other Airlines	126	129	120	110	103	109	105	105	107	109
Airport Total	128	130	125	117	113	117	115	114	117	119

Note: Excludes non-scheduled (i.e. charter) activity.

(a) Data are for January - April 2010

Sources: Official Airlines Guides, Inc, accessed June 2009; City of San Antonio Aviation Department records

As shown in tables presented earlier in this chapter, enplaned passengers at SAT increased between 2000 and 2008, both on Southwest Airlines and on other airlines. During the first 4 months of 2009, the average daily number of passengers traveling on Southwest Airlines decreased, from 3,975 in 2008 to 3,865. Additionally, a more pronounced decrease in enplaned passengers, similar to that experienced during the downturn following the events of September 11, 2001, was experienced by other airlines serving SAT during the first 4 months of 2009, from 7,411 in 2008 to 6,408.

Average daily scheduled departing seats at the Airport increased by 799 between 2000 and 2008, equal to between five and six additional daily departures by a narrowbody aircraft. Average daily scheduled departing seats in 2000 (9,412) and 2008 (9,408) on airlines other than Southwest Airlines were nearly identical. However, between 2000 and 2008, average daily scheduled departing seats on airlines other than Southwest declined steadily through 2004 before rebounding. The initial decline in capacity on airlines other than Southwest was the result of a permanent reduction in capacity by airlines such as American Airlines (with respect to the TWA operation, which American assumed in early 2001) and Delta Air Lines to Dallas/Fort Worth International Airport, as it began to dismantle its DFW hubbing operation, and a temporary reduction in capacity by Continental Airlines resulting from economic recession. The rebound in capacity during more recent years occurred as a result of growth by incumbent carriers as well as new entrant airlines, such as AirTran Airways and Frontier Airlines. Southwest Airlines maintained consistent levels of capacity throughout the early part of the decade. As a result, its increase in service during more recent years represents genuine growth, as opposed to recovery.

In addition to the increase in average daily scheduled seats, average daily scheduled aircraft operations at the Airport have also increased. As a whole, 18 more average daily flights were provided from SAT in 2008 than in 2000, including 13 flights on airlines other than Southwest Airlines. Average daily aircraft operations by Southwest have reflected the airline's upward trend in scheduled departing seats, which remained level during the first few years of the decade before increasing in more recent years. Average daily aircraft departures on airlines other than Southwest declined in 2001, remained approximately level in 2002, and began rebounding in 2003, surpassing 2000 levels in 2004.

Trends in passengers, scheduled departing seats, and aircraft operations can be used to assess airline service at an airport by examining certain metrics that indicate how an airline is managing its capacity; these metrics include load factors and average seats per departure. A nominal load factor can be calculated on the basis of a single flight, a particular route, or for an airport as a whole by dividing the total number of passengers by the total number of scheduled seats. The average seats per departure metric provides a general measure of the size of aircraft serving a route or an airport, and is calculated by dividing total scheduled departing seats by total scheduled departing operations.

The average load factor at the Airport has risen in recent years, while the average number of seats per departure has decreased. The average nominal load factor on airlines other than Southwest increased from 68.9 percent in 2000 to 78.8 percent in 2008, while the average number of seats per departure decreased from 126 to 107 over the same period. As mentioned previously, average daily aircraft departures during this period increased, indicating that the airlines serving the Airport other than Southwest have, on the whole, been complementing their narrowbody aircraft operations with a larger mix of regional aircraft. Southwest Airlines' average numbers of seats per departure remained relatively constant between 2000 and 2008, which

can be attributed to the airline operating only B-737 aircraft.⁶ Southwest Airlines' lack of smaller aircraft in its fleet and its desire to retain its flight schedule at the Airport led to a decrease in load factor in the years following September 11, 2001. Following a rebound during subsequent years, Southwest's 61.1 percent load factor in 2008 was roughly the same as its 2000 load factor (61.0 percent). Southwest Airlines has lower load factors at SAT than other airlines serving the Airport. Systemwide, Southwest's average load factor has historically been lower than that of many of its competitors, especially as competitors have eliminated capacity from their systems. Between 2000 and 2008, Southwest's load factors ranged from a low of 55.0 percent in 2002 to a high of 63.5 percent in 2006 (see Table 3-14).

Trends in load factor and average seats per departure indicate that many airlines at the Airport are using their capacity more effectively than they did previously. These trends reflect overall trends observed at airports nationwide, where airlines have been down-gauging service to smaller aircraft at larger airports and eliminating service in markets where it makes sense. The net result is that the number of aircraft operations may be the same or reduced, and the average size of the aircraft serving a given airport may be smaller, notwithstanding possible increases in numbers of enplaned passengers (resulting in higher load factors).

Data for the first 4 months of 2009 indicate that, unlike the last recession, airlines are valuing capacity management over maintaining a consistent flight schedule at the Airport. During the last economic recession (beginning in 2001), airlines serving SAT appeared to have retained their flight schedules by down-gauging aircraft size, but retaining similar frequencies. During the first 4 months of 2009, frequencies at the Airport decreased. This decrease was, in part, the result of some airlines eliminating all service from the Airport, such as Spirit Airlines, Midwest Airlines, and ExpressJet Airlines. Additionally, some airlines have reduced their scheduled service at the Airport. Despite the decline, average load factors and average seats per departure were similar in 2008 and the first 4 months of 2009.

3.4.5 Airline Shares of Enplaned Passengers

Forecast assumptions (especially for near-term forecasts) can be driven by the activity of specific airlines at a given airport. One measure of an airline's activity is its market share of total enplaned passengers. **Table 3-15** presents airline market shares of enplaned passengers at the Airport for 1999, 2004, and 2008 and for the first 4 months of 2008 and 2009.

The airline market share distribution of enplaned passengers at the Airport in 2008 was similar to that in previous years. Southwest Airlines and American Airlines have typically been the two busiest carriers at the Airport in terms of enplaned passengers. SAT is one of Southwest Airlines' three original cities and is a mature market. Southwest Airlines has consistently held slightly more than one-third of the total market share of enplaned passengers at the Airport. The airline currently serves 15 destinations from the Airport with 47 average daily flights. For American Airlines, SAT serves as a classic "spoke" in the airline's national network, with the great majority of its passengers at SAT traveling on nearly hourly flights to DFW. American Airlines transported 18.5 percent of total enplaned passengers at the Airport in 2008. Continental Airlines is currently the third busiest carrier at the Airport, with a 12.1 percent market share of enplaned passengers in 2008. In 1999 and 2004, Delta Air Lines was the third busiest carrier at the Airport, but its enplaned passengers at the Airport have consistently declined,

⁶ The slight variation in numbers of seats per departure results from different variations in the type of aircraft, such as the B-737-300, B-737-500, and B-737-700.

largely as a result of the airline's scaling back and eventual closure of its hub at DFW, which Delta served from the Airport. In 1999, Delta had a 16.0 percent market share of enplaned passengers at SAT, compared with an 8.5 percent market share in 2008. Together, Delta Air Lines, Northwest Airlines, United Airlines, and US Airways enplaned 25.4 percent of total enplaned passengers at the Airport in 2008.

A recent development at the Airport has been the growth in service by LCCs. Recently, service was initiated by AirTran Airways to Atlanta, Frontier Airlines to Denver, and Spirit Airlines to Fort Lauderdale.⁷ Together, these airlines enplaned 4.6 percent of all enplaned passengers at SAT in 2008.

Although year-over-year enplaned passenger numbers at the Airport decreased during the 4 four months of 2009 relative to 2008, there were no significant shifts in market shares. Such a trend indicates that numbers of enplaned passengers have decreased on all carriers and are not isolated to specific carriers.

⁷ Spirit Airlines no longer serves San Antonio.

Table 3-15: Airline Market Shares of Enplaned Passenger

Airline Group (a)	1999		2004		2008		January-April 2008		January-April 2009	
	Enplaned Passengers	Share of Total	Enplaned Passengers	Share of Total	Enplaned Passengers	Share of Total	Enplaned Passengers	Share of Total	Enplaned Passengers	Share of Total
Southwest Airlines	1,230,512	34.80%	1,254,692	35.90%	1,455,014	34.90%	467,203	35.20%	463,740	37.60%
American Airlines	596,783	16.9	663,773	19	771,348	18.5	254,709	19.2	231,439	18.8
Delta Air Lines (b)	565,389	16	446,892	12.8	353,306	8.5	107,681	8.1	158,908	12.9
Continental Airlines	446,633	12.6	424,173	12.1	505,267	12.1	173,126	13	141,554	11.5
United Airlines	177,105	5	240,112	6.9	294,526	7.1	97,409	7.3	89,195	7.2
Northwest Airlines (b)	101,158	2.9	214,801	6.1	233,559	5.6	79,610	6	--	--
US Airways (c)	75,944	2.1	100,491	2.9	174,617	4.2	41,500	3.1	56,079	4.6
AirTran Airways	--	--	--	--	67,367	1.6	--	--	34,302	2.8
Frontier Airlines	--	--	--	--	96,555	2.3	31,666	2.4	31,241	2.5
ExpressJet Airlines	--	--	--	--	69,567	1.7	33,776	2.5	--	--
Mexicana de Aviacion	60,391	1.7	63,455	1.8	52,510	1.3	13,414	1	17,191	1.4
Other	111,831	3.2	90,583	2.6	62,622	1.5	25,486	1.9	5,100	0.4
Spirit Airlines	--	--	--	--	31,182	0.7	1,770	0.1	3,940	0.3
Trans World Airlines	172,497	4.9	--	--	--	--	--	--	--	--
	3,538,243	100.00%	3,498,972	100.00%	4,167,440	100.00%	1,327,350	100.00%	1,232,689	100.00%

Note: Columns may not add to totals shown because of rounding.

(a) Includes the activity of regional affiliates.

(b) Delta completed its merger with Northwest in October 2008.

(c) America West Airlines is included as an affiliate of US Airways for all years shown, although its merger with US Airways did not occur until September 2005.

Source: City of San Antonio Aviation Department records

3.4.6 Origin-Destination Markets for Domestic Passengers

Table 3-16 shows the top 25 domestic origin-destination markets for passengers beginning their journeys at the Airport in 2008. Airlines providing nonstop service from the Airport to those markets in June 2009 are also shown. These 25 markets accounted for 66.8 percent of total enplaned passengers at SAT in 2008.

Because of the Airport's central geographic location, most U.S. destinations are within a medium-haul flight distance of 500 miles to 1,499 miles. In fact, 19 of the top 25 origin-destination markets are medium-haul distances, 4 are short-haul (less than 500 miles) distances, and 2 are long-haul (more than 1,500 miles) distances. DFW is the top destination from SAT, with 9.3 percent of total enplaned passengers. Although only 9.3 percent of passengers are traveling to DFW, nearly 25 percent of scheduled seat capacity at the Airport in 2008 was allocated to Dallas-Fort Worth, suggesting that many passengers traveling to DFW were connecting at that airport, or were remaining onboard and deplaning at a different destination.

Nonstop airline service is provided to 20 of the Airport's top 25 origin-destination markets. Nonstop service was previously provided to 3 of the top 25 markets, including Kansas City, New Orleans, and Raleigh/Durham. Two or more airlines compete in 8 of the Airport's top 25 markets.⁸ Table 3-16 helps illustrate Southwest Airlines' continued prominence at the Airport; 14 of the top 25 markets are served nonstop by Southwest Airlines, while 7 of these markets are served exclusively by Southwest Airlines. Additionally, all but one of the top 25 markets from SAT is part of Southwest Airlines' route system. Much of the recent growth in LCC service at the Airport has occurred in markets that are currently not served by Southwest (e.g., AirTran Airways to Atlanta) or were not served by Southwest at the time service was initiated by another airline (e.g., Frontier Airlines to Denver).

⁸ Competing airlines may fly to separate airports, both of which serve a market. For example, both American Airlines and Southwest Airlines serve the Dallas-Fort Worth metroplex, with American Airlines serving DFW and Southwest Airlines serving Dallas Love Field.

Table 3-16: Top 25 Domestic Origin-Destination Markets

Rank	Origin-Destination Market	Nonstop Miles from SAT	Outbound Origin-Destination Passengers	Percent of Total	Airlines with Nonstop Service (a) June 2009
1	Dallas/Fort Worth (b)	248	332,630	9.3%	AA, WN
2	Washington, D.C. (c)	1,383	183,170	5.1	UA, WN
3	Los Angeles (d)	1,192	171,960	4.8	UA, WN
4	Chicago (e)	1,039	151,130	4.2	AA, UA, WN
5	Las Vegas	1,069	142,360	4.0	WN
6	New York (f)	1,581	131,790	3.7	CO
7	Houston (g)	192	120,340	3.4	CO, WN
8	Atlanta	874	111,020	3.1	DL, FL
9	Denver	794	108,540	3.0	F9, UA, WN
10	Phoenix	843	80,770	2.3	US, WN
11	San Francisco (h)	1,471	80,250	2.2	UA
12	Orlando	1,040	77,320	2.2	WN
13	El Paso	496	67,240	1.9	WN
14	Miami (i)	1,144	65,090	1.8	-
15	Philadelphia	1,495	63,280	1.8	WN
16	San Diego	1,129	60,320	1.7	WN
17	Seattle-Tacoma	1,774	60,310	1.7	-
18	Detroit	1,215	57,850	1.6	NW
19	St. Louis	795	57,790	1.6	AA
20	Tampa	972	45,990	1.3	WN
21	Kansas City	706	45,660	1.3	-
22	Minneapolis-St. Paul	1,097	44,350	1.2	NW
23	Nashville	822	44,290	1.2	WN
24	New Orleans	495	42,470	1.2	-
25	Raleigh-Durham	1,225	42,350	1.2	-
	Cities listed		2,388,270	66.7%	
	Other cities		1,190,420	33.3	
	All cities		3,578,690	100.0%	

Note: Includes domestic origin-destination passengers only.

(a) Certificated U.S. airlines operating scheduled passenger service. Each mainline carrier and its code-sharing affiliate were counted as one airline. Legend: AA=American, CO=Continental, DL=Delta, F9=Frontier, FL=AirTran, NW=Northwest, UA=United, US=US Airways, WN=Southwest.

(b) Dallas /Fort Worth International Airport and Dallas Love Field.

(c) Reagan Washington National, Baltimore/Washington International, and Washington Dulles International airports.

(d) Los Angeles International, Bob Hope, Ontario International, John Wayne (Orange County), and Long Beach airports.

(e) Chicago O'Hare and Midway international airports.

(f) Newark Liberty International, LaGuardia, and John F. Kennedy International airports.

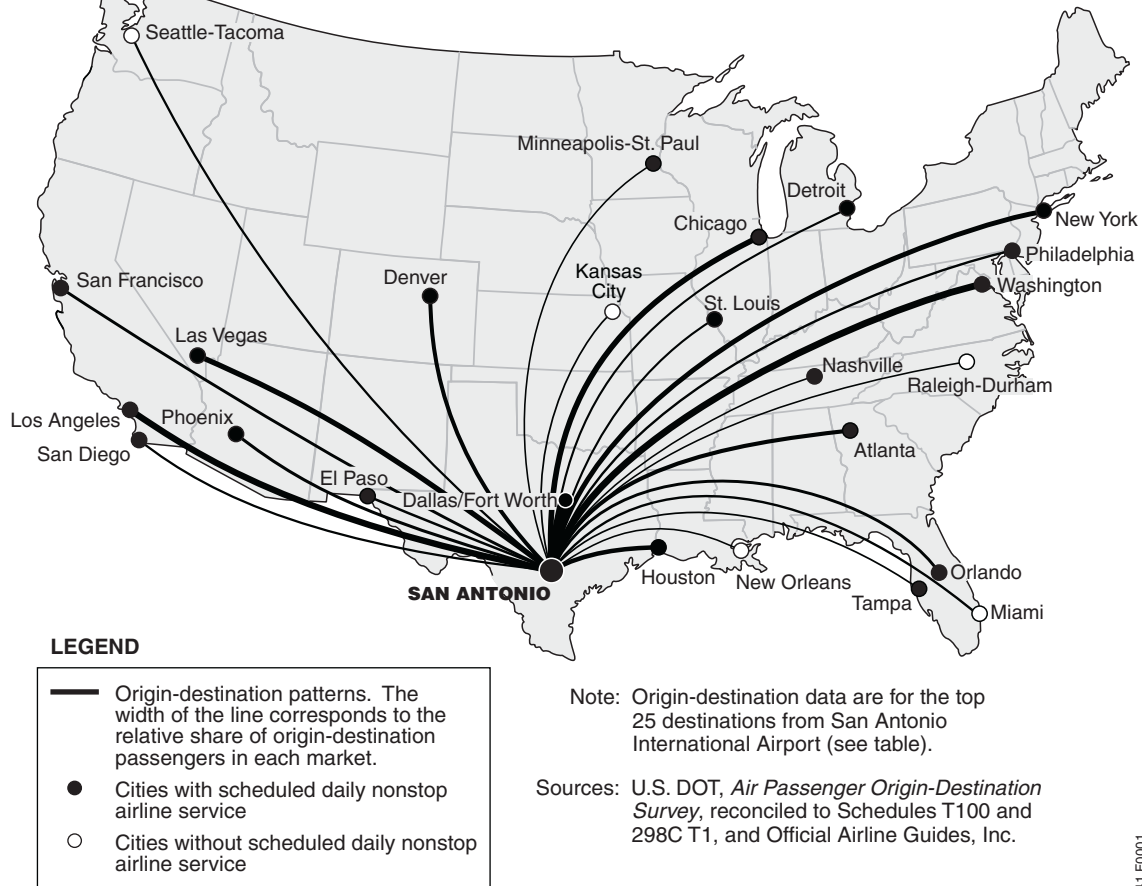
(g) Bush Intercontinental and Houston William P. Hobby airports.

(h) San Francisco, Oakland, and Mineta San Jose international airports.

(i) Fort Lauderdale-Hollywood and Miami international airports.

Sources: U.S. DOT, Air Passenger Origin-Destination Survey, reconciled to T100 and 298C T1. Official Airline Guides, Inc., accessed June 2009.

Figure 3-8: Domestic Origin-Destination Pattern—CY 2008



3.4.7 Origin-Destination Markets for International Passengers

Nonstop international service at the Airport is provided entirely by foreign-flag airlines serving Mexico. **Table 3-17** shows the top 25 international destinations for passengers originating at SAT and the airlines providing nonstop service to these destinations. Cancun, Mexico, is the largest international destination market for passengers originating in San Antonio; in 2008, 5.1 percent of all international originating passengers at the Airport were traveling to Cancun. As shown in Table 3-17, nonstop service from the Airport to the top 25 international origin-destination destinations is provided only by Mexicana de Aviacion and Aeromexico Connect to Mexico City. No scheduled service is provided to Cancun, the largest international origin-destination market from SAT, nor did it exist during the peak winter travel season in 2009. Additionally, no scheduled service currently exists to international destinations, such as London, England; Frankfurt, Germany; Toronto, Canada; or Paris, France. Originating passenger traffic from SAT to all of these cities is greater than to Mexico City.

3.4.8 Airline Service

This section provides further analysis of airline service at the Airport, including a breakdown of numbers of enplaned passengers on mainline and affiliate airlines, a breakdown of domestic

and international enplaned passengers, and a comparison of scheduled seats between the Airport and other major airports in Texas.

Figure 3-9 shows enplaned passengers at the Airport traveling on mainline airlines (including LCCs and foreign-flag carriers) and their regional affiliates from 1994 through 2008, as well as the first 4 months of 2008 and 2009. The proportion of passengers traveling on regional affiliates has increased in recent years. Data for the first 4 months of 2009 indicate a continuation of this trend compared with the first 4 months of 2008. This increase in passengers on regional affiliates is the likely result of the increased availability of larger regional aircraft. Such aircraft can fly farther than their smaller counterparts and can accommodate a sufficient number of passengers to replace a narrowbody aircraft on certain lower-demand routes. Likewise, larger regional jet aircraft, such as the Embraer 170/190, have a cost per available seat mile similar to the A320 and B-737. When market conditions necessitate that capacity be cut to maintain pricing power, down-gauging aircraft on certain routes has proven to be a popular way for airlines to maintain flight schedules while reducing capacity.

**Table 3-17: Top 25 International Origin-Destination Markets
2008**

Rank	Market (Airport)	Nonstop Miles from SAT	Outbound Origin-Destination Passengers	Percent of Total	Airlines with Nonstop Service (a) June 2009
1	Mexico City, Mexico	931	10,710	5.1%	5D,MX
2	Frankfurt, Germany	5,375	9,660	4.6	--
3	Toronto, Canada	1,425	8,350	4.0	--
4	London (Heathrow), England	4,981	8,150	3.9	--
5	San Jose Del Cabo, Mexico	824	5,360	2.5	--
6	Calgary, Canada	1,692	5,110	2.4	--
7	Vancouver, Canada	1,878	5,090	2.4	--
8	Paris (Charles de Gaulle), France	5,176	4,540	2.2	--
9	Mexico City, Mexico	696	4,080	1.9	--
10	Montreal, Canada	1,735	3,970	1.9	--
11	Tokyo, Japan	6,536	3,960	1.9	--
12	Panama City, Panama	1,874	3,910	1.9	--
13	Seoul (Incheon), Korea	6,986	3,810	1.8	--
14	London (Gatwick), England	5,001	3,530	1.7	--
15	Puerto Vallarta, Mexico	742	3,280	1.6	--
16	Rome (Fiumicino), Italy	5,837	3,250	1.5	--
17	San Jose, Costa Rica	1,630	3,010	1.4	--
18	Bogota, Colombia	2,334	2,440	1.2	--
19	Amsterdam, Netherlands	5,154	2,350	1.1	--
20	Nassau, Bahamas	1,326	2,300	1.1	--
21	Munich, Germany	5,567	2,280	1.1	--
22	Guadalajara, Mexico	690	2,200	1.0	--
23	Lima, Peru	3,192	2,200	1.0	--
24	Madrid, Spain	5,174	2,180	1.0	--
25	Guatemala City, Guatemala	1,147	2,020	1.0	--
	Cities listed		107,740	51.1%	
	Other cities		103,280	48.9	
	All cities		211,020	100.0%	

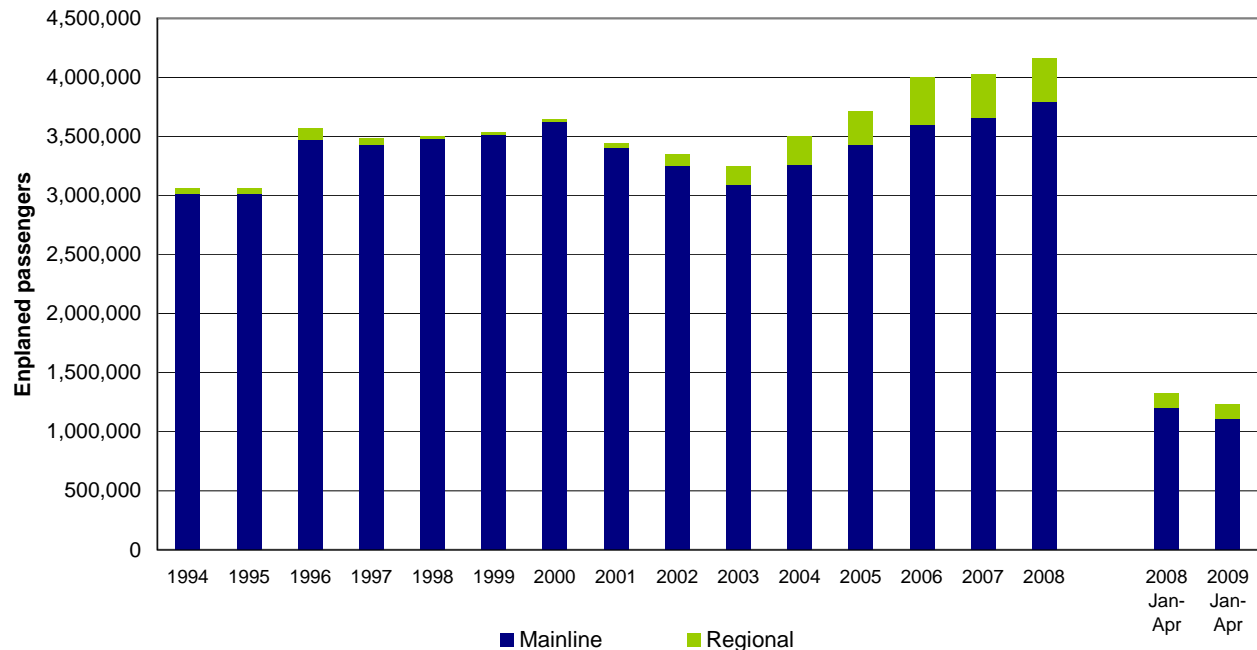
Note: Includes international origin-destination passengers, as well as passengers who boarded domestic flights to other U.S. gateway airports where they connected with flights to their international destinations.

Includes passengers making all or part of their journeys on flights operated by U.S.-flag carriers, but excludes passengers traveling exclusively on foreign-flag carriers.

(a) Certificated airlines operating scheduled passenger service, includes foreign-flag airlines. Each mainline carrier and its code-sharing affiliates were counted as one airline. Legend: 5D=Aeromexico Connect, MX=Mexicana.

Sources: U.S. DOT, Air Passenger Origin-Destination Survey, reconciled to Schedules T100 and 298C T1; Official Airline Guides, Inc., accessed June 2009.

Figure 3-9: Historical Enplaned Passengers by Mainline Airlines and Their Regional Affiliates



Source: City of San Antonio Aviation Department records

Table 3-18 presents numbers of domestic and international enplaned passengers at the Airport and their respective shares in 1994 through the first 4 months of 2009. Domestic passengers have historically represented the large majority of passengers at the Airport. In 2008, domestic passengers accounted for 97.9 percent of total passengers at SAT, and have accounted for more than 96 percent since 1994. Between 1994 and 2008, the number of domestic passengers enplaned at SAT increased an average of 2.4 percent per year.

International enplaned passengers have historically accounted for between 2.1 percent and 3.9 percent of total enplaned passengers at SAT. International enplaned passengers are those passengers traveling nonstop to an international destination from the Airport. Most international enplaned passengers originate their journeys at SAT on foreign-flag carriers, as they are the only airlines that provide scheduled and nonscheduled nonstop service from SAT to international destinations. Between 1994 and 2008, the number of international passengers enplaned at SAT decreased an average of 2.2 percent per year.

Table 3-18: Historical Domestic and International Enplaned Passengers

Year	Domestic	Domestic Share	International	International Share	Total
1994	2,943,892	96.1%	120,876	3.9%	3,064,768
1995	2,987,385	97.7	71,151	2.3	3,058,536
1996	3,470,805	97.3	97,523	2.7	3,568,328
1997	3,382,220	97.1	101,921	2.9	3,484,141
1998	3,381,731	96.5	123,641	3.5	3,505,372
1999	3,422,157	96.7	116,086	3.3	3,538,243
2000	3,526,538	96.7	120,556	3.3	3,647,094
2001	3,337,004	96.9	107,871	3.1	3,444,875
2002	3,249,606	97.0	99,677	3.0	3,349,283
2003	3,170,854	97.5	80,057	2.5	3,250,911
2004	3,402,674	97.2	96,298	2.8	3,498,972
2005	3,620,368	97.5	93,424	2.5	3,713,792
2006	3,904,178	97.5	98,725	2.5	4,002,903
2007	3,927,682	97.4	102,889	2.6	4,030,571
2008	4,078,774	97.9	88,666	2.1	4,167,440
January through April					
2008	1,302,415	98.1%	24,935	1.9%	1,327,350
2009	1,213,258	98.4	19,431	1.6	1,232,689
Average annual percent increase (decrease)					
1994-2000	3.1%		(0.0%)		2.9%
2000-2008	1.8		(3.8)		1.7
1994-2008	2.4		(2.2)		2.2

Source: City of San Antonio Aviation Department records.

Table 3-19 presents a comparison of average daily scheduled departing seats by airline group in June 2009 at SAT and at other large Texas airports. SAT offers fewer scheduled departing seats than the other five airports listed in the table. Nearly all of the international service available from Texas is provided by American Airlines through its hub at DFW and by Continental Airlines through its hub at IAH. Although DFW has more international traffic, international traffic at IAH represents a higher proportion of the airport's total scheduled seats. SAT offers more nonstop service to international destinations than AUS; average daily scheduled departing seats to international destinations from SAT numbered 228 in June 2009 compared to 54 from AUS. Although LCCs at AUS provide more scheduled seats than at SAT, the overall share of total scheduled seats on LCCs is approximately the same at both airports.

Table 3-19: Scheduled Departing Seats by Airline Group at Selected Airports

Average daily scheduled departing seats in June 2009						
Airline Group	SAT	AUS	DFW	IAH	HOU	DAL
Domestic	14,094	15,522	90,978	54,950	19,435	17,194
Mainline carriers	4,736	5,477	71,908	36,682	--	--
Regional affiliates	2,234	2,263	16,803	17,876	1,123	507
Low-cost carriers	7,124	7,782	2,268	393	18,312	16,688
International	228	54	8,591	14,483	--	--
Mainline carriers	--	--	6,812	9,188	--	--
Regional affiliates	--	--	372	2,450	--	--
Low-cost carriers	--	--	144	--	--	--
Foreign-flag carriers	228	54	1,263	2,845	--	--
Total	14,322	15,576	99,569	69,433	19,435	17,194
Mainline carriers	4,736	5,477	78,720	45,870	--	--
Regional affiliates	2,234	2,263	17,175	20,326	1,123	507
Low-cost carriers	7,124	7,782	2,412	393	18,312	16,688
Foreign-flag carriers	228	54	1,263	2,845	--	--
Percent of total						
Airline Group	SAT	AUS	DFW	IAH	HOU	DAL
Domestic	98.40%	99.70%	91.40%	79.10%	100.00%	100.00%
Mainline carriers	33.1	35.2	72.2	52.8	--	--
Regional affiliates	15.6	14.5	16.9	25.7	5.8	2.9
Low-cost carriers	49.7	50	2.3	0.6	94.2	97.1
International	1.60%	0.30%	8.60%	20.90%	--%	--%
Mainline carriers	--	--	6.8	13.2	--	--
Regional affiliates	--	--	0.4	3.5	--	--
Low-cost carriers	--	--	0.1	--	--	--
Foreign-flag carriers	1.6	0.3	1.3	4.1	--	--
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Mainline carriers	33.1	35.2	79.1	66.1	--	--
Regional affiliates	15.6	14.5	17.2	29.3	5.8	2.9
Low-cost carriers	49.7	50	2.4	0.6	94.2	97.1
Foreign-flag carriers	1.6	0.3	1.3	4.1	--	--

Note: Columns may not add to totals shown because of rounding.

Source: Official Airline Guides, Inc., accessed June 2009.

3.4.9 Airline Fares and Yields

Table 3-20 presents information on average domestic airline fares, yields, and average passenger trip distance for the Airport and in the United States as a whole in 2000 through 2008. Airfares charged for travel to and from an airport are an important determinant of airline passenger traffic. The average fare is the result of a number of factors unique to each airport, which include, but are not limited to: proximity to other airports, competition at the airport or at surrounding airports, the distance from the airport to destination airports, the type of airlines

serving the airport (i.e., network or LCC), and the nature of passenger traffic on the route (i.e., business versus leisure). Yield is a measure of airline revenue, normalized for distance. Yield is measured in cents per revenue-passenger-mile, and is calculated by dividing fare revenue by trip length. Average fares, trip lengths, and yields for SAT are presented in Table 3-20 for Southwest Airlines, airlines other than Southwest, and for the Airport as a whole.

The average one-way airfare at the Airport increased an average of 0.9 percent per year between 2000 and 2008, while average one-way airfares in the United States increased an average of 0.2 percent per year. Average trip length at SAT, and in the nation as a whole, increased at similar rates of 0.9 percent and 0.8 percent annually since 2000. The net result is that average yields in the nation in 2008 were lower than they were in 2000, while the average yield at the Airport in 2008 was similar to the 2000 level. Southwest Airlines' fares have risen faster than the Airport average, at approximately 2.8 percent per year. This increase was similar to Southwest's average annual increase in trip length (2.7 percent). Many of the new destinations served from SAT reflect a redistribution of Southwest Airlines' capacity at SAT away from close-in airports, such as Houston's William P. Hobby Airport (HOU), and service to new destinations farther from the Airport, such as San Diego International Airport, Chicago Midway International Airport, Denver International Airport and Philadelphia International Airport. Southwest Airlines' yield increased slightly during this period, from 14.8 cents per mile in 2000 to 15.0 cents per mile in 2008.

**Table 3-20: Average Domestic One-Way Airline Fares and Yield
San Antonio International Airport and United States**

Year	San Antonio International Airport									United States		
	Southwest Airlines			All Other Airlines			All Airlines					
	Average One-Way Fare Paid	Yield (cents per mile)	Average Passenger Trip Distance (miles)	Average One-Way Fare Paid	Yield (cents per mile)	Average Passenger Trip Distance (miles)	Average One-Way Fare Paid	Yield (cents per mile)	Average Passenger Trip Distance (miles)	Average One-Way Fare Paid	Yield (cents per mile)	Average Passenger Trip Distance (miles)
2000	\$98.24	14.8	663	\$170.69	14.2	1,206	\$144.08	14.3	1,007	\$157.19	14.7	1,073
2001	93.09	13.6	684	159.63	13.0	1,232	134.61	13.1	1,026	145.54	13.3	1,098
2002	96.78	13.4	723	157.59	12.6	1,249	135.40	12.8	1,057	136.45	12.1	1,124
2003	99.02	13.6	726	163.73	13.0	1,256	140.22	13.2	1,064	138.20	12.1	1,142
2004	99.29	13.2	752	165.76	13.2	1,253	140.82	13.2	1,065	134.37	11.7	1,150
2005	103.19	13.8	747	164.51	13.2	1,245	142.17	13.4	1,063	137.13	12.0	1,147
2006	113.15	14.4	788	170.43	14.0	1,219	149.40	14.1	1,060	149.50	13.0	1,147
2007	116.06	14.7	789	176.88	14.5	1,222	154.29	14.5	1,061	149.06	13.1	1,139
2008	122.97	15.0	819	173.53	14.1	1,232	155.14	14.4	1,081	159.62	13.9	1,146
	Average annual percent increase (decrease)											
2000-2008	2.8%	0.2%	2.7%	0.2%	(0.1)%	0.3%	0.9%	0.1%	0.9%	0.2%	(0.6)%	0.8%

Note: Average fares shown are net of all taxes, fees, and Passenger Facility Charges.

Source: U.S. Department of Transportation, Air Passenger Origin-Destination Survey, reconciled to Schedules T100 and 298C T1.

Table 3-21 provides historical airfare data for the Airport's top 10 markets compared with airfares to the same destinations from AUS, DFW, IAH, HOU, and Dallas Love Field (DAL). As shown, the average fare to SAT's top 10 markets was \$140.38 in 2008, lower than the average fare of \$146.27 to the same 10 markets from AUS. The average fare to all of SAT's markets in 2008 was slightly lower from AUS (\$153.41) than from SAT (\$155.14). Southwest Airlines' focus cities have the lowest average fares from DAL and HOU of the six airports listed, while the two hub airports (DFW and IAH) have the highest average fares.

Table 3-22 presents comparative information on departing seats and average domestic one-way airfares for the LCCs and all other airlines at SAT and AUS to the top 25 origin-destination markets from both airports in June 2009. The LCCs and the network airlines serving AUS provide more departing seats than the airlines serving SAT, to the top 25 destinations and in total.

LCC service was provided to 13 of the top 25 markets from both SAT and AUS. Network carriers served 14 of the top 25 destinations from SAT and AUS. In many cases, these markets were the same ones served by the LCCs. Markets such as Dallas; Washington, D.C.; Phoenix; and Denver were served by LCCs and network carriers from both SAT and AUS in June 2009. Certain destinations, such as Las Vegas, Orlando, and San Diego, were only served by LCCs from SAT and AUS. These markets are primarily leisure markets and, as such, are more suited to the LCC business model. Other destinations, such as Detroit, Minneapolis-St. Paul, and Salt Lake City, were only served by the network carriers from SAT and AUS; the airports serving these cities are all connecting hubs for the network carriers.

In some markets, such as Dallas-Fort Worth; Washington, D.C.; and Houston, both SAT and AUS were served with similar numbers of scheduled seats on both the LCCs and the network carriers. LCCs such as Southwest Airlines and network carriers such as Northwest Airlines attempt to serve both airports similarly, in the absence of competitive pressures. Of the 15 destinations that Southwest Airlines served nonstop from both SAT and AUS in June 2009, 13 were served with similar numbers of monthly departures. Similarly, Northwest Airlines served both SAT and AUS from its hubs in Detroit and Minneapolis-St. Paul with similar levels of service in June 2009.

Competitive pressures at SAT and AUS can create disparities in service offerings to a given destination. In the case of the San Francisco Bay Area, both JetBlue Airways and Southwest Airlines serve the market nonstop from AUS. Both airlines initiated service to the Bay Area from AUS in May 2008. When the network carriers are also considered, AUS offered an average of 630 daily departing seats to the San Francisco Bay Area, while SAT offered 66 average daily departing seats. In a situation favoring SAT, AirTran Airways recently began serving Hartsfield-Jackson Atlanta International Airport (ATL) from the Airport. Currently, AirTran Airways does not serve AUS. In June 2009, 1,397 daily scheduled departing seats were offered from SAT to Atlanta, compared with 749 from AUS. The difference between the two is AirTran Airways' capacity on the route, plus additional capacity provided by Delta Air Lines.

Material differences in airfares can arise as a result of competition at one of the airports compared to the other. Average fares to ATL were \$48.7 from SAT than from AUS in June 2009, while average fares to the San Francisco Bay Area were \$16.0 higher from SAT than from AUS.

Table 3-21: Airfares and Daily Nonstop Departures for Top 10 San Antonio Domestic Markets

Top 10 San Antonio Markets (ranked by share of originating passengers)	Average domestic one-way fare (CY2008)						Daily nonstop departures (June 2009)					
	SAT	AUS	DFW	IAH	HOU	DAL	SAT	AUS	DFW	IAH	HOU	DAL
Dallas/Fort Worth (a)	\$91.76	\$96.01	n.a.	\$102.16	\$98.08	n.a.	28	26	--	24	34	--
Washington DC/Baltimore (b)	185.32	195.74	208.75	222.34	150.01	162.49	4	4	31	14	3	--
Los Angeles (c)	163.21	146.61	187.45	211.52	160.68	155.53	5	6	38	19	4	--
Chicago (d)	148.07	155.01	165.12	162.21	149.61	140.83	7	9	25	15	6	2
Las Vegas	134.56	134.70	158.71	168.15	131.54	137.97	4	3	14	7	4	--
New York (e)	208.83	205.79	251.93	252.45	176.84	162.22	2	4	27	20	2	--
Houston (f)	87.60	87.48	104.71	n.a.	n.a.	97.36	16	16	25	--	--	33
Atlanta	172.44	221.15	150.56	144.62	128.78	183.39	12	8	27	16	13	--
Denver	119.60	109.61	130.05	141.19	119.05	120.98	9	11	22	14	3	--
Phoenix	136.68	135.81	168.93	164.88	141.11	139.94	7	8	14	10	4	--
Top 10 San Antonio markets	\$140.38	\$146.27	\$181.53	\$184.40	\$127.98	\$114.60	93	94	223	139	73	35
All markets	\$155.14	\$153.41	\$181.06	\$181.99	\$129.15	\$106.41	119	130	809	606	152	133

Notes: n.a.=not applicable; average fares shown are net of all taxes, fees, and Passenger Facility Charges.

(a) Dallas Fort Worth International Airport and Dallas Love Field.

(b) Reagan Washington National, Baltimore/Washington International, Washington Dulles International airports.

(c) Los Angeles International, Bob Hope, Ontario International, John Wayne, and Long Beach airports.

(d) Chicago O'Hare International and Midway International airports

(e) Newark Liberty International, LaGuardia, and John F. Kennedy International Airports.

(f) George Bush Intercontinental and Houston William P. Hobby airports.

Sources: U.S. DOT, Air Passenger Origin-Destination Survey, reconciled to Schedules T100 and 298C T1

**Table 3-22: Domestic Departing Seats by City Markets and Airline Type,
and Average Fares, Top 25 O&D Markets at San Antonio and Austin-Bergstrom
International Airports**

Rank	City market	Scheduled Domestic Departing Seats (June 2009)						Average domestic One-Way Fare (CY2008)		
		SAT			AUS			SAT	AUS	Difference
		Low-Cost Carriers	All Other Airlines	Total	Low-Cost Carriers	All Other Airlines	Total			
1	Dallas/Fort Worth (a)	1,734	2,100	3,834	1,488	2,095	3,583	\$91.76	\$96.01	-\$4.25
2	Washington, D.C. / Baltimore (b)	274	133	407	271	130	401	185.32	195.74	-10.42
3	Los Angeles (c)	273	189	462	374	415	789	163.21	146.61	16.59
4	Las Vegas	549	--	549	426	--	426	134.56	134.70	-0.14
5	San Francisco (d)	--	66	66	237	393	630	183.03	166.98	16.04
6	Houston (e)	767	1,261	2,028	747	1,291	2,039	87.60	87.48	0.12
7	Chicago (f)	274	479	753	273	772	1,044	148.07	155.01	-6.93
8	New York (g)	--	216	216	237	299	536	208.83	205.79	3.05
9	Phoenix	411	344	755	530	333	862	136.68	135.81	0.87
10	Denver	545	379	924	771	367	1,138	119.60	109.61	9.99
11	Atlanta	468	929	1,397	--	749	749	172.44	221.15	-48.71
12	El Paso	492	--	492	509	--	509	115.28	116.89	-1.61
13	Orlando	292	--	292	374	--	374	142.42	128.40	14.02
14	San Diego	273	--	273	274	--	274	144.23	148.79	-4.56
15	Seattle - Tacoma	--	--	--	--	--	--	162.53	176.75	-14.22
16	St. Louis	--	44	44	--	44	44	147.64	141.17	6.46
17	Nashville	256	--	256	246	--	246	135.76	137.42	-1.66
18	Miami (h)	--	--	--	237	--	237	121.89	135.29	-13.40
19	New Orleans	--	--	--	--	--	--	120.38	123.77	-3.39
20	Detroit	--	156	156	--	144	144	170.87	180.52	-9.66
21	Minneapolis-St. Paul	--	142	142	--	142	142	210.23	225.45	-15.22
22	Kansas City	--	--	--	--	--	--	142.41	133.95	8.47
23	Salt Lake City	--	136	136	--	142	142	170.28	164.70	5.58
24	Tampa	137	--	137	137	--	137	136.38	138.64	-2.26
25	Raleigh-Durham	--	--	--	--	--	--	153.94	174.05	-20.12
	Cities listed	6,745	6,572	13,317	7,130	7,318	14,448	\$143.78	\$148.91	-\$5.12
	Other cities	379.87	397.33	777.20	651.47	422.53	1,074.00	177.15	163.08	14.08
	All cities	7,124	6,970	14,094	7,782	7,740	15,522	\$155.14	\$153.41	\$1.73

Note: Markets ranked by outbound O&D passengers for SAT and AUS combined for calendar year 2008.

(a) Dallas Fort Worth International Airport and Love Field.

(b) Reagan Washington National, Baltimore/Washington International, and Washington Dulles International airports.

(c) Los Angeles International, Bob Hope, Ontario International, John Wayne (Orange County), and Long Beach airports.

(d) Chicago O'Hare and Midway international airports.

(e) Newark Liberty International, LaGuardia, and John F. Kennedy International airports.

(f) George Bush Intercontinental and Houston William P. Hobby airports.

(g) San Francisco, Oakland, and Mineta San Jose international airports.

(h) Fort Lauderdale-Hollywood and Miami international airports.

Sources: Official Airline Guides, Inc., accessed June 2009; U.S. DOT, *Air Passenger Origin-Destination Survey*, reconciled to Schedules T100 and 298C T1.

3.4.10 Air Cargo

Historical air cargo (air freight and mail) tonnage at SAT is presented in **Table 3-23**. From 1994 through 2008, total air cargo increased an average of 3.7 percent per year. Much of this increase was related to a one-time increase in freight in 1997. Between 1996 and 1997, freight handled at the Airport increased 55 percent from 66,452 tons to 103,021 tons. This increase was largely the result of contracts secured by freight carrier Eagle USA. Freight volume at the Airport since then has appeared to follow economic trends. During the early part of this decade, freight remained below levels accommodated at the Airport during the late 1990s. Between 2006 and 2008, total freight volume at the Airport rebounded, but decreased 17.7 percent during the first 4 months of 2009 compared to the same period of 2008.

Historically, mail has accounted for between one-quarter and one-third of total cargo activity at the Airport. Mail volume appears to be more resilient to industry downturns, having decreased materially only in 2001, before rebounding in 2002 and 2003. However, mail volume during the first 4 months of 2009 was 17.6 percent lower compared with the same period of 2008—roughly the same decline as freight volume.

FedEx and United Parcel Service (UPS) handled the vast majority of freight volume at SAT in 2008, accounting for approximately 86.5 percent of the total. The amount of belly-cargo carried by the passenger airlines has decreased significantly in recent years, reflecting industry trends and TSA requirements to screen cargo loaded into the belly compartments of passenger aircraft.

Table 3-23: Historical Air Cargo Tonnage

	Freight	Freight Percent Share	Mail	Mail Percent Share	Total	Annual Percent Increase (Decrease)
1994	57,923	67.8%	27,542	32.2%	85,465	--
1995	60,551	67.5	29,161	32.5	89,712	5.0%
1996	66,452	68.6	30,384	31.4	96,835	7.9
1997	103,021	78.0	29,135	22.0	132,156	36.5
1998	114,003	77.2	33,617	22.8	147,620	11.7
1999	104,558	73.1	38,379	26.9	142,936	(3.2)
2000	97,469	70.9	39,961	29.1	137,430	(3.9)
2001	82,324	74.3	28,469	25.7	110,793	(19.4)
2002	97,636	73.2	35,827	26.8	133,463	20.5
2003	87,387	68.1	40,980	31.9	128,367	(3.8)
2004	93,691	70.9	38,365	29.1	132,057	2.9
2005	94,503	71.7	37,228	28.3	131,731	(0.2)
2006	103,886	73.1	38,176	26.9	142,061	7.8
2007	105,372	75.0	35,036	25.0	140,408	(1.2)
2008	107,774	76.2	33,624	23.8	141,399	0.7
First 4 months						
2008	35,390	74.1%	12,349	25.9%	47,738	--%
2009	29,123	74.1	10,174	25.9	39,298	(17.7)
Average annual percent increase (decrease)						
1994-2000	9.1%		6.4%		8.2%	
2000-2008	1.3		(2.1)		0.4	
1994-2008	4.5		1.4		3.7	

Notes: Sum of enplaned and deplaned cargo.

Rows may not add to totals shown because of rounding.

Source: City of San Antonio Aviation Department records.

3.4.11 Aircraft Operations

In addition to enplaned passengers, aircraft operations, which are defined as the takeoff and landing of aircraft, are a critical component in assessing and planning for future airport facility needs. **Table 3-24** presents total aircraft operations at SAT from 1990 through the first 4 months of 2009, by air carrier, commuter and air taxi, general aviation (GA) and military aircraft.

Air carrier aircraft operations are defined by the FAA as operations on scheduled airlines and charter airlines using aircraft with 61 or more seats. This category typically includes operations by passenger airlines, all-cargo (cargo only) airlines, such as FedEx and UPS, and charter airlines that operate passenger and/or cargo flights. Air carrier aircraft operations increased from 81,000 in 1990 to 107,842 in 2008, at an average annual rate of 1.6 percent. Air carrier operations historically (through 2004) accounted for the second largest number of operations at SAT, behind GA. However, as a result of continued increase in air carrier operations and a steady decline in GA operations, air carrier operations now represent the largest component of total aircraft operations. In 2008, air carrier aircraft operations accounted for about 50 percent of total operations at the Airport, while GA aircraft operations accounted for about 39 percent.

Commuter and air taxi aircraft operations consist of scheduled and for-hire passenger and cargo services on airlines operating aircraft with 60 or fewer seats. Operations in this category increased an average of 5.9 percent per year between 1990 and 2000, before decreasing an average of 7.0 percent per year between 2000 and 2008. To explain further, commuter and air taxi operations increased between 1999 and 2003, peaking at 58,769 operations and 22.5 percent of total Airportwide operations in 2003. Slightly fewer commuter and air taxi operations were conducted at the Airport in 2008 (20,780) than in 1990 (21,000).

Table 3-24: Historical Aircraft Operations

	Commercial Flights			General Aviation	Military	Total	Annual Percent Increase (Decrease)
	Air Carrier (a)	Commuter/ Air Taxi (b)	Subtotal				
1990	81,000	21,000	102,000	108,000	8,000	218,000	--%
1991	79,964	17,455	97,419	106,255	5,488	209,162	(4.1)
1992	76,869	26,184	103,053	105,105	6,233	214,391	2.5
1993	80,146	31,759	111,905	105,128	6,150	223,183	4.1
1994	84,785	38,825	123,610	107,622	10,211	241,443	8.2
1995	82,069	35,313	117,382	110,873	10,357	238,612	(1.2)
1996	87,464	40,224	127,688	123,469	10,497	261,654	9.7
1997	84,748	36,395	121,143	126,801	9,557	257,501	(1.6)
1998	80,982	39,305	120,287	142,063	11,011	273,361	6.2
1999	81,795	36,457	118,252	125,960	12,020	256,232	(6.3)
2000	80,879	37,212	118,091	116,960	11,104	246,155	(3.9)
2001	71,151	41,239	112,390	111,987	11,819	236,196	(4.0)
2002	68,536	46,847	115,383	106,154	11,474	233,011	(1.3)
2003	63,744	58,769	122,513	123,616	14,504	260,633	11.9
2004	89,616	29,565	119,181	93,782	8,194	221,157	(15.1)
2005	95,016	24,324	119,340	89,328	5,415	214,083	(3.2)
2006	103,836	19,557	123,393	90,517	4,328	218,238	1.9
2007	107,281	22,268	129,549	85,387	4,279	219,215	0.4
2008	107,842	20,780	128,622	83,982	4,014	216,618	(1.2)
First 4 months							
2008	35,442	7,473	42,915	28,958	1,459	73,332	--%
2009	33,157	6,576	39,733	25,040	1,236	66,009	(10.0)
Average annual percent increase (decrease)							
1990-2000	0.0%	5.9%	1.5%	0.8%	3.3%	1.2%	
2000-2008	3.7	(7.0)	1.1	(4.1)	(11.9)	(1.6)	
1990-2008	1.6	(0.1)	1.3	(1.4)	(3.8)	(0.0)	

Notes:

(a) Includes all-cargo airline aircraft operations.

(b) Includes scheduled and for-hire service passenger and cargo service on aircraft with 60 or fewer seats.

Source: City of San Antonio Aviation Department records.

GA accounts for a significant share of total aircraft operations and total demand on the airfield at medium hub airports such as SAT. GA was historically the largest component of total operations at the Airport. In 1990, GA accounted for nearly half of total Airportwide operations. GA traffic at the Airport decreased an average of 1.4 percent per year between 1990 and 2008. The numbers of GA operations has been at consistently lower levels since 2003, indicating that the number of GA operations in 2008 was part of a trend that can be expected to continue.

Military aircraft operations continue to account for a small portion of total aircraft operations at SAT, representing between 2 percent and 6 percent of total operations between 1990 and 2008.

As shown in Table 3-24, during the first 4 months of 2009, total operations decreased 10.0 percent compared with the number of operations during first 4 months of 2008. This net decrease is a result of decreases in all components of air traffic at the Airport, which individually decreased between 6 percent and 15 percent.

Table 3-25 presents information on itinerant and local GA and military operations at the Airport between 1995 and 2008. Itinerant operations are defined as operations in which the aircraft leaves one airport en route to another airport. Local operations are conducted by aircraft operating within the airspace surrounding the airport and within sight of the airport. Local operations are predominantly conducted by flight schools and recreational pilots. As shown in Table 3-25, itinerant operations have historically accounted for a vast majority of total GA operations at the Airport. The decline in GA operations at the Airport since 2003 was caused by a decrease in itinerant operations; between 2003 and 2004, itinerant GA operations at the Airport decreased 32.3 percent, while local GA operations decreased 22.0 percent. Total GA operations at the Airport decreased 31.8 percent in 2004, further highlighting the predominance of itinerant operations. Itinerant operations numbered approximately 84,000 in 2008, while local operations numbered 124 in 2008.

**Table 3-25: Historical Itinerant and Local General Aviation
and Military Operations**

	General Aviation			Military			Total			Annual Percent Increase (Decrease)
	Itinerant	Local	Total	Itinerant	Local	Total	Itinerant	Local	Total	
1995	100,565	10,308	110,873	8,515	1,842	10,357	109,080	12,150	121,230	--%
1996	114,217	9,252	123,469	8,947	1,604	10,551	123,164	10,856	134,020	10.6
1997	120,615	6,186	126,801	8,305	1,252	9,557	128,920	7,438	136,358	1.7
1998	135,037	7,026	142,063	9,617	1,394	11,011	144,654	8,420	153,074	12.3
1999	117,708	8,252	125,960	10,434	1,586	12,020	128,142	9,838	137,980	(9.9)
2000	109,230	7,730	116,960	10,120	1,038	11,158	119,350	8,768	128,118	(7.1)
2001	105,535	6,452	111,987	10,627	1,192	11,819	116,162	7,644	123,806	(3.4)
2002	99,994	6,160	106,154	11,474	1,406	12,880	111,468	7,566	119,034	(3.9)
2003	117,668	5,948	123,616	14,504	1,118	15,622	132,172	7,066	139,238	17.0
2004	88,908	4,874	93,782	8,194	1,870	10,064	97,102	6,744	103,846	(25.4)
2005	82,864	6,464	89,328	5,415	688	6,103	88,279	7,152	95,431	(8.1)
2006	84,313	6,204	90,517	4,328	696	5,024	88,641	6,900	95,541	0.1
2007	83,819	1,568	85,387	4,279	222	4,501	88,098	1,790	89,888	(5.9)
2008	83,858	124	83,982	4,014	16	4,030	87,872	140	88,012	(2.1)
Jan - Apr										
2008	28,886	72	28,958	1,443	16	1,459	30,329	88	30,417	--%
2009	25,040	0	25,040	1,236	0	1,236	26,276	0	26,276	(13.6)
Average Annual percent Increase (Decrease)										
1995-1999	4.0%	(5.4%)	3.2%	5.2%	(3.7%)	3.8%	4.1%	(5.1%)	3.3%	
1999-2004	(5.5)	(10.0)	(5.7)	(4.7)	3.3	(3.5)	(5.4)	(7.3)	(5.5)	
2004-2008	(1.5)	(60.1)	(2.7)	(16.3)	(69.6)	(20.5)	(2.5)	(62.0)	(4.1)	
1999-2008	(3.7)	(37.3)	(4.4)	(10.1)	(40.0)	(11.4)	(4.1)	(37.7)	(4.9)	

Source: City of San Antonio Aviation Department records

3.5 KEY FACTORS AFFECTING FUTURE AVIATION DEMAND

In addition to the economy and demographics of the Airport service region, discussed in Section 3.1, "Airport Service Region," key factors that will affect aviation demand at San Antonio International Airport include:

- Economic and political conditions
- Financial health of the airline industry
- Airline service and routes
- Airline competition and airfares
- Airline consolidation and alliances
- Availability and price of aviation fuel
- Aviation safety and security concerns
- Capacity of the national air traffic control system

3.5.1 Economic and Political Conditions

Historically, airline passenger traffic nationwide has correlated closely with the state of the U.S. economy and levels of real disposable income. Recession in the U.S. economy in 2001 and stagnant economic conditions in 2002 contributed to reduced passenger numbers during those years. The recession that began in 2008, combined with reduced discretionary income and increased airfares, contributed to a reduction in airline travel demand in 2008 and 2009 and will continue to do so in the near term.

With the globalization of business and the increased importance of international trade and tourism, growth in the U.S. economy has become more closely tied to worldwide economic, political, and social conditions. As a result, international economics, trade balances, currency exchange rates, political relationships, and hostilities are important influences on passenger traffic at major U.S. airports. Sustained future increases both in domestic and international passenger traffic will depend on stable and peaceful international conditions and global economic growth.

3.5.2 Financial Health of the Airline Industry

The number of passengers at the Airport will depend partly on the profitability of the U.S. airline industry and the associated ability of the industry and individual airlines, particularly Southwest and American, to make the necessary investments to continue providing service.

The 1990-1991 economic recession, coupled with increased operating costs and security concerns during the Gulf War, generated then-record financial losses in the airline industry. Those losses put particular pressures on financially weak or highly indebted airlines, forcing many to seek bankruptcy protection, sell productive assets, lay off workers, reduce service, or discontinue operations in the early 1990s.

Between 1995 and 2000, the airline industry as a whole was profitable, but as a result of the 2001 economic recession, the disruption of the airline industry that followed the September 2001 terrorist attacks, increased fuel and other operating costs, and price competition, the industry again experienced huge financial losses. In 2001 through 2005, the major U.S. passenger airlines collectively recorded net losses of approximately \$40 billion.

To mitigate those losses, all of the major network airlines restructured their route networks and flight schedules and reached agreement with their employees, lessors, vendors, and creditors to cut costs, either under Chapter 11 bankruptcy protection or the possibility of such.

In 2006 and 2007, the U.S. passenger airline industry as a whole was profitable, but in 2008, as oil and aviation fuel prices increased to unprecedented levels, the industry confronted a profitability crisis. The airlines responded by grounding older, less fuel-efficient aircraft, adopting fuel-saving operating practices, hedging their fuel requirements, reducing scheduled seat capacity, eliminating unprofitable routes, laying off employees, reducing employee compensation, reducing other non-fuel expenses, increasing airfares, and imposing other fees and charges. By the end of 2008, the U.S. passenger airlines had collectively reduced domestic capacity (as measured by available seat-miles) by approximately 10 percent compared with available capacity at the end of 2007 and most airlines announced additional capacity reductions in 2009. Among the airlines that planned capacity cuts in 2009 was Southwest Airlines, which cut capacity for the first time in its history in 2009. Plans for a 4 percent year-over-year decrease in capacity were announced in January 2009. American Airlines, the second busiest carrier at the Airport, announced plans to cut systemwide capacity by an additional two percentage points during the second half of 2009; its total year-end capacity in 2009 was expected to be 7.5 percent lower than its year-end 2008 capacity.

Such industrywide capacity reductions may be required to allow the airlines to achieve equilibrium between seat supply and passenger demand at airfares adequate to achieve profitability. The combination of reduced seat capacity, increased airfares, and weak economic conditions is expected to lead to reduced passenger numbers at most airports through 2009 and beyond.

Most U.S. airlines have limited cash reserves and continuing losses could force any of them to seek bankruptcy protection or liquidate. In the first-half of 2008, Aloha Airlines, ATA Airlines, and Skybus Airlines declared bankruptcy and ceased operations. In April 2008, Frontier Airlines filed for Chapter 11 bankruptcy protection, but continues to operate. The liquidation of one or more of the large network airlines could drastically affect airline service at many connecting hub airports, present business opportunities for the remaining airlines, and change airline travel patterns throughout the U.S. aviation system.

3.5.3 Airline Service and Routes

SAT serves as a gateway to the San Antonio MSA. The number of origin-destination passengers at the Airport depends on the intrinsic attractiveness of the San Antonio MSA as a business and leisure destination and the propensity of its residents to travel. Although passenger demand at an airport depends primarily on the population and economy of the region served, airline service and the numbers of passengers enplaned also depend on the route networks of the airlines serving that airport. Most full-fare mainline airlines have emphasized the development of hub-and-spoke route networks as a means of increasing their service frequencies, passenger numbers, and profitability. At an airport almost exclusively serving

origin-destination passengers, such as SAT, the number of enplaned passengers is not as dependent upon the hub-and-spoke operations of the airlines serving the airport.

3.5.4 Airline Competition and Airfares

Airline fares have an important effect on passenger demand, particularly for relatively short trips, where the automobile and other travel modes are potential alternatives, and for price-sensitive “discretionary” travel. Airfare levels have an increased effect on demand for airline travel in weak economic conditions when the disposable income of potential airline travelers is reduced. Airfares are influenced by capacity and yield management; passenger demand; market presence; labor, fuel, and other airline operating costs; airline debt burden; taxes, fees, and other charges assessed by governmental and airport agencies; and competitive factors. Future passenger numbers, both nationwide and at the Airport, will depend on the level of airfares.

Overcapacity in the industry, the ability of consumers to compare airfares and book flights easily via the Internet, and other competitive factors combined to reduce airfares nationwide between 2000 and 2005. During that period, the average domestic yield for U.S. airlines decreased from 14.7 cents to 12.0 cents per passenger-mile. In 2006 through 2008, as airlines reduced capacity and were able to sustain fare increases, industrywide yields increased to an average of 13.9 cents in 2008. The ability of the airlines to continue increasing and rationalizing fares while controlling seat capacity is seen as key to the industry regaining and sustaining profitability.

3.5.5 Airline Consolidation and Alliances

In response to competitive pressures the U.S. airline industry has a long history of consolidations. Recent consolidations involving airlines serving the Airport include the April 2001 American Airlines acquisition of failing Trans World Airlines. Likewise, in September 2005, US Airways and America West Airlines merged and, in October 2008, Delta Air Lines and Northwest Airlines merged to become the world’s largest airline. Various other merger combinations of American Airlines, Continental Airlines, United Airlines, and others were rumored in 2008 and 2009, but did not occur. In the longer term, further airline consolidation is possible and could change airline service patterns, particularly at the connecting hub airports of the merging airlines.

Alliances provide airlines with many of the advantages of mergers and all of the large U.S. network airlines are members of such alliances with foreign-flag airlines. Alliances typically involve marketing, code-sharing, and scheduling arrangements to facilitate the transfer of passengers among the allied airlines. The three major alliances are the Star Alliance (of which United Airlines and Continental Airlines are members), the oneworld alliance (of which American Airlines is a member), and SkyTeam (of which Delta Air Lines is currently a member). All three alliances are represented at the Airport.

3.5.6 Availability and Price of Aviation Fuel

The price of aviation fuel is a critical and uncertain factor affecting airline operating economics. Fuel prices are particularly sensitive to worldwide political instability and economic uncertainty. Beginning in 2003, fuel prices increased as a result of the Iraq War; political unrest in Nigeria and other oil-producing countries; the rapidly growing economies of China, India, and other developing countries; and other factors influencing the demand for and supply of oil. By mid-2008, average fuel prices were three times higher than they were in mid-2004 and

represented the largest item of airline operating expense, accounting for between 30 percent and 40 percent of expenses for most airlines. Increased prices have been the single most important contributor to recent airline industry losses. In the second half of 2008, fuel prices fell sharply as demand was reduced worldwide, although prices again increased in early 2009.

Airline industry analysts hold differing views regarding how oil and aviation fuel prices may change in the near term. However, there is widespread agreement that fuel prices are likely to remain high relative to historical levels and to increase over the long term as global energy demand increases in the face of finite and increasingly expensive oil supplies.

While aviation fuel prices have not affected the ability of airlines to provide service, continued high prices will affect future airline service, airfares, and passenger numbers. Airline operating economics will also be affected as regulatory costs are imposed on airline travel and the airline industry as part of efforts to reduce aircraft emissions contributing to global climate change.

3.5.7 Aviation Safety and Security Concerns

Passenger concerns about the safety of airline travel and the effectiveness of security precautions influence passenger travel behavior and airline travel demand. Anxieties about the safety of flying and the inconveniences and delays associated with security screening procedures lead to both the avoidance of travel and the switching from air to surface modes of transportation for short trips.

Safety concerns in the aftermath of the terrorist attacks in September 2001 were largely responsible for the steep decline in airline travel nationwide in 2002. Since 2001, government agencies, airlines, and airport operators have upgraded security measures to guard against changing threats and maintain confidence in the safety of airline travel. These measures include strengthened aircraft cockpit doors, changed flight crew procedures, increased presence of armed sky marshals, federalization of airport security functions under the TSA, and more intensive screening of passengers and baggage. In summer 2006, the discovery of a plot to attack transatlantic flights with liquid explosives led to further changes in security screening procedures.

Historically, airline travel demand has recovered after temporary decreases stemming from terrorist attacks or threats, hijackings, aircraft crashes, public health concerns, and international hostilities. Provided that precautions by government agencies, airlines, and airport operators serve to maintain the public's confidence in the safety of commercial aviation without imposing unacceptable inconveniences for airline travelers, it can be expected that future demand for airline travel at the Airport will depend primarily on economic, not safety or security, factors.

Public health concerns have also affected airline travel demand from time to time. In 2003, concerns about the spread of severe acute respiratory syndrome (SARS) led public health agencies to issue advisories against nonessential travel to certain regions of the world. Beginning in April 2009, concerns about the spread of "swine flu" caused by the H1N1 virus reduced certain international travel, particularly to and from Mexico.

3.5.8 Capacity of the National Air Traffic Control System

Demands on the national air traffic control system have, in the past, caused delays and operational restrictions affecting airline schedules and passenger traffic. The FAA is gradually

implementing its Next Generation Air Transportation System (NextGen) and management programs to modernize and automate the guidance and communications equipment of the air traffic control system and enhance the use of airspace and runways through improved air navigation aids and procedures. After 2001, and again in 2008 and 2009, air traffic delays decreased as a result of reduced numbers of aircraft operations but, as airline travel demand increases in the future, flight delays and restrictions will again be experienced.

3.6 FORECAST AVIATION DEMAND

Forecasts of aviation demand were developed for the two major categories of commercial passenger airline activity, total enplaned passengers and total aircraft operations. Derivative forecasts were also developed for the significant components of activity within these major categories. For example, within the enplaned passenger category, forecasts were developed for domestic and international enplaned passengers, and mainline and regional enplaned passengers. Within the aircraft operations category, forecasts were developed for mainline and regional passenger aircraft operations and all-cargo, general aviation, and military aircraft operations. The approach, methodology, and key assumptions used in developing the commercial passenger airline activity forecasts are described below.

3.6.1 Enplaned Passengers

The enplaned passenger forecasts were developed using standard industry forecasting techniques to analyze: (a) historical patterns of passenger traffic at the Airport; (b) recent or emerging trends at the Airport and in the airline industry; and (c) the outlook for future aviation demand on a local, national, and international level.

The baseline forecast of enplaned passengers was developed assuming that the long-term trend of approximately 2.5 percent average annual growth would continue unless a specific event or series of events were to occur that would alter this trend. A series of analyses using linear regression, time series analysis, travel propensity ratios (enplaned passengers per capita), trend analysis, and airline schedule data were performed. It was determined that it was reasonable to assume that this long-term historical trend (2.5 percent growth) would continue over the long term. It was also determined that it was reasonable to assume, given the current year to date traffic results, from January to April 2009, traffic results for the United States, and industry and airline reports regarding the significant decrease in demand and the reduction in airline seat capacity, that there would be an interruption of this long-term growth trend in 2009 and beyond.

It is impossible to predict exactly when the economy will recover, at what pace it will recover, and its direct correlation to future aviation demand; therefore, assumptions regarding short-term growth (2009 through 2015) were formulated. These assumptions were based on an analysis of SAT's response following other similar traffic downturns, available airline schedule information, industry and airline specific reports regarding the near-term outlook for demand, various economic forecasts, and professional judgment. Based on a synthesis of this information, the recovery of airline traffic from its current downturn at SAT was estimated.

A general assumption was that airline traffic will increase along a trend similar to the recovery in the economy. For example, many economists believe that, once the economy begins to recover, GDP growth will gradually increase to its long-term average of 3 percent annual growth and

then exceed this rate for 2 to 3 years as the economy recovers from a long recession. Similar logic was applied to forecasting the growth in enplaned passengers between 2009 and 2015. Specifically, it was estimated that numbers of enplaned passengers would decrease approximately 10 percent in 2009 and then gradually begin to recover in 2010. The number of enplaned passengers was estimated to increase approximately 3 percent in 2010 and then forecast to increase an average of 4.5 percent per year from 2011 through 2015. At that pace, the numbers of enplaned passengers at SAT would rebound to their 2008 high in 2012 and continue to increase at an above-average rate through 2015. This growth forecast is supported by the fact that, after the two most significant traffic downturns at SAT in 1991 and 2001, enplaned passenger growth during the recovery period averaged 5.5 percent per year from 1992 through 1994 and 5.1 percent per year from 2003 through 2008.

From 2015 through 2030, under the baseline forecast, enplaned passengers are forecast to return to a rate near the Airport's long-term average annual growth rate of 2.5 percent. For the extended forecast period, 2030 through 2050, enplaned passenger growth is forecast to decrease to approximately 2.1 percent per year as the total number of passengers is forecast to increase approximately 67 percent between 2008 and 2030.

From the assumptions discussed above for the baseline forecast, a high-growth forecast and a low-growth forecast were developed by assuming a positive or negative change from the baseline forecast. Under the high-growth forecast scenario, it was assumed that the national economy and GDP growth would recover more quickly and increase at an above average annual rate through 2015. Under the low-growth forecast scenario, it was assumed that the economy would take longer to recover and lower than average growth was assumed through 2015.

International Enplaned Passengers

Historically, international enplaned passengers have accounted for approximately 2 percent to 3 percent of total SAT enplaned passengers. The Aviation Department defines international enplaned passengers as those passengers who fly nonstop from SAT to an international destination. A passenger who flies from SAT to DFW and boards a flight to Europe at DFW is counted by the Aviation Department as a domestic enplaned passenger. True international demand is best determined by analyzing international origin-destination traffic, which would include passengers who connect at DFW en route to an international destination. International origin-destination traffic at SAT increased an average of approximately 2.0 percent per year between 2000 and 2008 in contrast to international enplaned passengers, which decreased an average of approximately 3.8 percent per year over the same period. Based on this analysis, it was assumed that, over time, the demand for nonstop international service would increase as origin-destination traffic reaches levels that justify the addition of new nonstop international flights at SAT.

Because the volume of international activity at SAT is relatively small, averaging approximately five to six aircraft departures per day, a single extra flight can have a significant impact on the percent change in annual activity. Therefore, growth in international activity tends to occur in relatively large step increases in contrast to a steady upward trend in demand. It was assumed that, by 2015, one daily nonstop flight from SAT to Europe would be added. The European destination would likely be London, England; Frankfurt, Germany; or Paris, France, depending largely on the composition of airline alliances in place at that time and their respective European

hubs. Additional service to Mexico, the Caribbean, and Canada was also assumed to be incrementally added to the schedule over the forecast horizon.

Forecast Enplaned Passenger Scenarios

For planning purposes and to account for the inherent uncertainty of aviation demand forecasting, a range of enplaned passenger forecasts (baseline, low-growth, and high-growth) was developed to account for potential demand under various economic and airline industry conditions. Together, these forecast scenarios represent a reasonable range of future numbers of enplaned passengers. The low-growth scenario represents a level of enplaned passenger activity that may occur under weaker national economic conditions that would have a strong negative impact on all airlines and airports, while the high-growth scenario represents a level of activity that may occur under strong economic conditions, including an expansion of existing airline service and the addition of some new markets served from SAT. Key assumptions underlying each of the three forecast growth scenarios are described below.

General Basis for the Forecasts

1. The forecasts were developed on a calendar year basis.
2. 2008 is the base year and the latest complete calendar year for which actual data were available at the time this Master Plan was prepared. Numbers for 2009 are estimates based on 4 months (January through April) of actual data. Numbers for 2010 through 2050 are forecasts.
3. Historical data were provided by the City of San Antonio Aviation Department, U.S. Department of Transportation aviation statistics, Official Airline Guides, Inc., and other industry sources.

Baseline Scenario

The baseline enplaned passenger forecasts were predicated on the following primary assumptions:

1. The population and economy of the San Antonio MSA will increase at the rates shown in Table 3-9 and the San Antonio MSA will continue to be developed as a major commercial and distribution center for the Southwest region and the nation as a whole. The national economy will expand within the range of GDP growth estimates presented in Table 3-8.
2. The San Antonio MSA will remain an important center for the U.S. military and its role is expected to expand over the short-term. Expansion of the technology, health care, automobile manufacturing, and aerospace industries is also expected to drive local economic development.
3. Total passenger numbers and scheduled seats are estimated to decrease 10 percent in 2009 and to increase modestly in 2010 as a result of the continuing U.S. economic recession and volatile fuel prices. Enplaned passenger numbers were down approximately 7 percent in the first 4 months of 2009 compared to the same period of 2008. The decline in enplaned passengers tracked closely with the decline in

scheduled seats for the same period. The economy was assumed to demonstrate a gradual incremental improvement in 2010 and stimulate moderate air traffic growth of approximately 3 percent above 2009 levels.

4. By 2011, local passenger demand will begin to rebound from a 2009-2010 decline and increase as the economy improves. Southwest Airlines and other airlines will respond by increasing scheduled departures and scheduled seats at SAT.
5. The Airport will continue functioning as a primarily origin-destination airport with an incidental level of connecting traffic. Origin-destination traffic is expected to account for between 95 percent and 97 percent of total passenger traffic over the forecast horizon, while connecting passenger is expected to account for the remaining 3 percent to 5 percent.
6. Demand for international service will increase at a higher average annual rate than demand for domestic service. It is expected that, over the forecast horizon, new transatlantic markets will be served from SAT in addition to new Caribbean and Canadian markets and service to Mexico will increase.
7. Southwest Airlines will maintain its existing dominant enplaned passenger market share at SAT, which is estimated to increase modestly from approximately 35 percent in 2007 to 38 percent in 2030.
8. The other network carriers currently serving SAT (American Airlines, Continental Airlines, Delta Air Lines, United Airlines, and US Airways) will continue to serve the Airport from their respective hub airports, but they are not projected to add significant new city-pair service.
9. LCCs, such as AirTran Airways, Frontier Airlines, and others, are not expected to have a dramatic impact at the Airport, although their enplaned passenger market share is expected to gradually increase from approximately 4.5 percent in 2008 to approximately 10 percent in 2030. It is anticipated that market share gains by the LCCs at SAT will reflect losses by carriers other than Southwest Airlines.
10. Continued volatility in fuel prices is expected to continue over the short-term and is likely to have an intermittent effect on demand. For example, if fuel prices rise significantly, the airlines may respond by increasing average fares, which may result in decreased demand. However, in the long term, airfares are expected to increase at rates consistent with the increase in other goods and services.
11. No major external events, such as acts of terrorism, global economic recession, or major health epidemics, will occur throughout the forecast horizon.
12. The surrounding origin-destination and connecting hub airports that compete with SAT will continue to function under their existing operating models (i.e., AUS will continue to function as an origin-destination airport and IAH will continue to function as a major connecting hub) and remain viable passenger and cargo airports.

Under the baseline forecast, enplaned passengers are forecast to increase from approximately 4.2 million in 2008 to approximately 10.5 million in 2050, which equates to an annual average

long-term growth rate of 2.2 percent (see **Table 3-26**). Over the short-term, the number of enplaned passengers is estimated to decrease approximately 10 percent to 3.8 million in 2009 and then begin to increase in 2010 as economic conditions are assumed to improve. The number of enplaned passengers is forecast to increase an annual average of 4.5 percent from 2010 through 2015, to approximately 4.8 million in 2015. Annual growth rates are then forecast to average 2.7 percent from 2015 through 2020, 2.4 percent from 2020 to 2030, and 1.7 percent from 2030 through 2050.

Table 3-26: Enplaned Passenger Forecasts

The forecasts presented in this table were prepared using the information and assumptions described in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Baseline Forecast								
	Actual	Estimated	Forecast					CAGR
Enplaned Passengers	2008 (a)	2009 (b)	2010	2015	2020	2030	2050	2008-2050
Air carrier	3,608,000	3,247,000	3,369,000	4,152,000	4,730,000	6,102,000	9,526,000	2.3%
Regional/commuter	559,000	503,000	494,000	662,000	771,000	838,000	975,000	1.3%
Subtotal	4,167,000	3,750,000	3,863,000	4,814,000	5,501,000	6,940,000	10,501,000	2.2%
Percent increase (decrease) (c)		(10.0%)	3.0%	4.5%	2.7%	2.4%	2.1%	
Domestic	4,098,000	3,688,000	3,794,000	4,600,000	5,236,000	6,549,000	9,868,000	2.1%
International	69,000	62,000	69,000	214,000	264,000	391,000	633,000	5.4%
Subtotal	4,167,000	3,750,000	3,863,000	4,814,000	5,500,000	6,940,000	10,501,000	2.2%
Percent increase (decrease) (c)		(10.0%)	3.0%	4.5%	2.7%	2.4%	2.1%	
High-Growth Forecast								
	Actual	Estimated	Forecast					CAGR
Enplaned Passengers	2008 (a)	2009 (b)	2010	2015	2020	2030	2050	2008-2050
Air carrier	3,608,000	3,247,000	3,657,000	4,684,000	5,518,000	7,577,000	12,812,000	3.1%
Regional/commuter	559,000	503,000	540,000	863,000	1,107,000	1,271,000	1,713,000	2.7%
Subtotal	4,167,000	3,750,000	4,197,000	5,547,000	6,625,000	8,848,000	14,525,000	3.0%
Percent increase (decrease) (c)		(10.0%)	11.9%	5.7%	3.6%	2.9%	2.5%	
Domestic	4,098,000	3,688,000	4,064,000	5,265,000	6,235,000	8,357,000	13,615,000	2.9%
International	69,000	62,000	133,000	282,000	390,000	491,000	911,000	6.3%
Subtotal	4,167,000	3,750,000	4,197,000	5,547,000	6,625,000	8,848,000	14,526,000	3.0%
Percent increase (decrease) (c)		(10.0%)	11.9%	5.7%	3.6%	2.9%	2.5%	
Low-Growth Forecast								
	Actual	Estimated	Forecast					CAGR
Enplaned Passengers	2008 (a)	2009 (b)	2010	2015	2020	2030	2050	2008-2050
Air carrier	3,608,000	3,247,000	3,245,000	3,597,000	4,091,000	5,015,000	6,549,000	1.4%
Regional/commuter	559,000	503,000	423,000	508,000	595,000	631,000	732,000	0.6%
Subtotal	4,167,000	3,750,000	3,668,000	4,105,000	4,686,000	5,646,000	7,281,000	1.3%
Percent increase (decrease) (c)		(10.0%)	(2.2%)	2.3%	2.7%	1.9%	1.3%	
Domestic	4,098,000	3,688,000	3,599,000	3,981,000	4,445,000	5,327,000	6,743,000	1.2%
International	69,000	62,000	69,000	124,000	242,000	320,000	538,000	5.0%
Subtotal	4,167,000	3,750,000	3,668,000	4,105,000	4,687,000	5,647,000	7,281,000	1.3%
Percent increase (decrease) (c)		(10.0%)	(2.2%)	2.3%	2.7%	1.9%	1.3%	

(a) Source: 2008 data provided by City of San Antonio Aviation Department. Estimates and forecasts provided by the AECOM Team.

(b) Estimated on the basis of four months of actual data

(c) Represents the compound annual growth rate for the period from the next earlier forecast horizon year to the later forecast horizon year.

High-Growth Scenario

The high-growth forecast scenario was based on the baseline forecast assumptions described above, and the following alternative high-growth assumptions:

1. Population and economic growth would occur at higher rates than those shown in Tables 3-8 and 3-9 and assumed in the baseline forecast scenario. This higher growth would contribute to increased demand for airline service at the Airport.
2. An immediate correction of the factors contributing to current slow economic growth and high fuel prices would occur, resulting in profitable airline financial performance to support the expansion of airline service at SAT and the modernization of aircraft fleets.
3. Strong local and national economic growth and reduced fuel prices would support airline service to existing markets and to new medium-haul and long-haul markets.
4. Airlines serving the Airport would increase scheduled seat capacity in 2010, exceeding the 2008 peak and surpassing the decrease in 2009 scheduled seats by approximately 16 percent.
5. As a result of the high-growth assumptions mentioned above, the expansion of domestic service would increase connecting traffic and support additional nonstop international transatlantic service from the Airport.

As presented in Table 3-26, under the high-growth forecast scenario, the number of enplaned passengers would increase from approximately 4.2 million in 2008 to approximately 14.5 million in 2050, which equates to an annual long-term growth rate of 3.0 percent. Over the short-term, the numbers of enplaned passengers are estimated to decrease approximately 10 percent to 3.8 million in 2009 and then forecast to rebound in 2010 by approximately 12 percent over the 2009 low point as economic conditions are assumed to quickly improve. The numbers of enplaned passengers are then forecast to increase an annual average of 5.7 percent from 2010 through 2015 (numbering approximately 5.5 million in 2015), 3.6 percent from 2015 through 2020, 2.9 percent from 2020 to 2030, and 2.5 percent from 2030 through 2050 under the high-growth forecast scenario.

Low-Growth Scenario

The low-growth scenario includes the baseline forecast assumptions described above with the following alternative low-growth assumptions:

1. Population and economic growth would occur at lower rates than those shown in Tables 3-8 and 3-9 and assumed in the baseline forecast scenario. This slower growth would contribute to reduced demand for airline service at the Airport.
2. The factors contributing to the current slow national economic growth and high fuel prices will continue for a longer period than that assumed in the baseline and high-growth scenarios, resulting in unprofitable airline financial results and reduced systemwide airline seating capacity at most U.S. domestic airports.

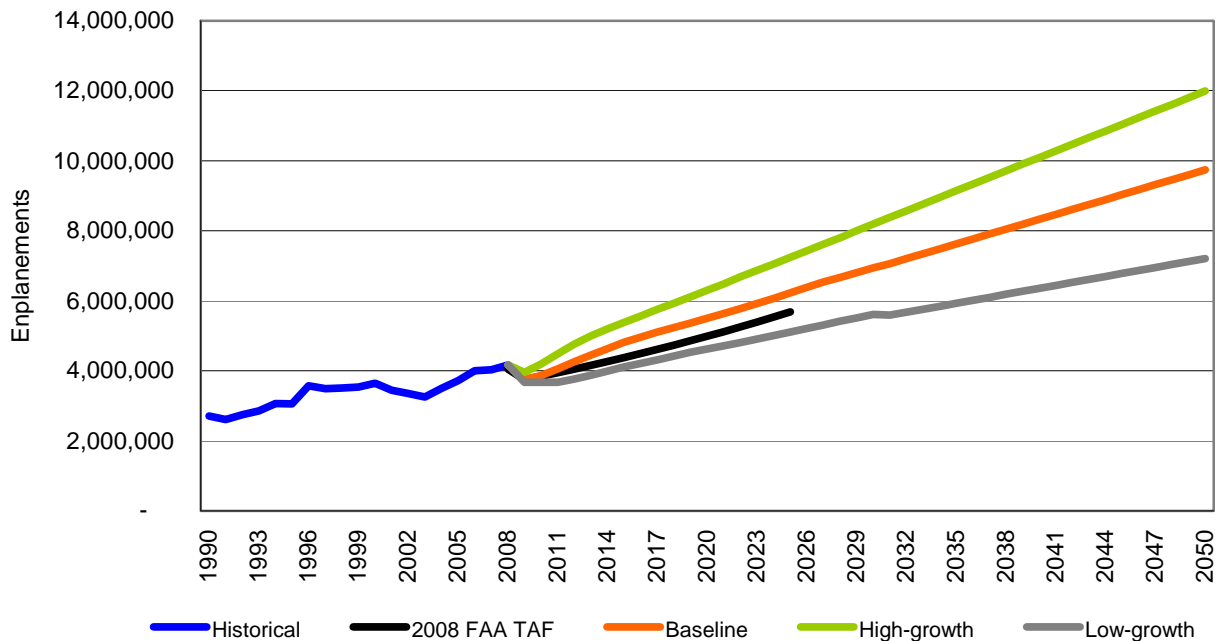
3. Annual growth in airline traffic demand would return to the baseline growth rates by approximately 2018, but then fall below baseline scenario demand throughout the remainder of the forecast horizon.
4. All airlines serving the Airport would reduce capacity to their existing markets by approximately 10 percent to 15 percent depending on market performance, and scheduled seat capacity would not recover to 2008 levels until approximately 2016.
5. Enplaned passenger market shares would remain approximately the same as in 2008, but with no additional growth by new entrant or low cost carriers. Transatlantic international service would not occur at SAT until approximately 2020.

As presented in Table 3-26, under the low-growth forecast scenario, the numbers of enplaned passengers would increase from approximately 4.2 million in 2008 to approximately 7.3 million in 2050, which equates to an annual long-term growth rate of 1.3 percent. Over the short-term, the numbers of enplaned passengers are estimated to decline approximately 10 percent, to 3.8 million in 2009, and then are forecast to decrease 2.2 percent in 2010 to a low of approximately 3.7 million, as poor economic conditions continue into 2012. The numbers of enplaned passengers are the forecast to increase an annual average of 2.3 percent from 2010 through 2015 (numbering approximately 4.1 million in 2015), 2.7 percent from 2015 through 2020, 1.9 percent from 2020 to 2030, and 1.3 percent from 2030 through 2050 (see Table 3-26) under the low-growth forecast scenario.

Enplaned Passenger Forecast Summary

Forecasts of enplaned passengers for each scenario are summarized in Table 3-26 and presented graphically on **Figure 3-10**. As shown, under the baseline scenario, the total number of enplaned passengers is forecast to increase an average of 2.2 percent per year between 2008 and 2050. Notably, international enplaned passengers are forecast to increase an average of 5.4 percent per year over the forecast period, whereas domestic enplaned passengers are forecast to increase at a more modest average of 2.1 percent per year.

Figure 3-10: Enplaned Passenger Forecast Scenarios



Note: 2008 FAA TAF forecast horizon is 2025.

3.6.2 Air Cargo Forecasts

The baseline, high-growth, and low-growth forecast scenarios for air cargo are discussed below. A key consideration in developing these forecasts was the forecast for national air cargo activity. Independent national forecasts prepared by the FAA and the major aircraft manufacturers (Airbus and Boeing) were reviewed and used as a general benchmark in developing the air cargo forecasts for SAT (see **Table 3-27**).

**Table 3-27: Independent Air Cargo Growth Forecasts
U.S. Domestic Growth Rates**

	Forecast period	Annual growth rate
Airbus (a)	2007-2026	2.9%
Boeing (b)	2007-2027	2.6
FAA (c)	2009-2025	2.0

- (a) Airbus 2007 *Global Market Forecast*.
(b) Boeing 2008-2009 *World Air Cargo Forecast*.
(c) FAA Aerospace Forecast 2009-2025.

Outlook Summary

Key points regarding the long-term growth outlook for the air cargo market at SAT include:

1. Historically, growth in GDP has been the key factor in long-term growth of air cargo tonnage. Domestic freight accounts for approximately 95 percent of total air freight at SAT and, therefore, it is expected that the future growth in GDP will largely determine future cargo tonnage at the Airport.
2. The U.S. air cargo market is considered a mature market in comparison to the global air cargo market and specific high-growth markets, such as intra-Asia or domestic China. Therefore, the anticipated growth in U.S. domestic air cargo tonnage is significantly lower than in the international markets mentioned above.
3. The rapid growth in the express shipment market (overnight, second, and third day delivery products) that occurred in the 1980s and 1990s has slowed considerably since 2000 and this market is now considered to be mature, with slower expected growth compared to historical growth levels.
4. As a result of high fuel and operating costs, shippers and cargo carriers have actively migrated significant cargo tonnage from aircraft to truck. This trend is expected to continue, reducing the opportunity for growth in the air cargo segment at SAT and nationwide.
5. The 9/11 Commission Act of 2007 mandated that, by August 2010, 100 percent of cargo transported on passenger aircraft is to be screened. This requirement will likely result in the transfer of some air cargo that would typically be carried in the belly compartment of passenger aircraft to all-cargo carriers and to a continued decline in future belly cargo tonnage carried.
6. Air freight, which includes express packages, as well as heavy-weight and oversized shipments, is forecast to increase at higher average annual rates than mail. Mail is expected to increase at a modest rate, as the use of email and other forms of electronic communication replaces an increasing portion of standard U.S. mail.

Forecast Results

Baseline, high-growth and low-growth forecasts were prepared for air cargo tonnage segmented by mail and freight, as presented in **Table 3-28**. The three forecast scenarios for air cargo are discussed below.

Baseline Scenario: Under the baseline scenario, general economic conditions were assumed to reach the bottom of their decline in 2009 and then begin a recovery in 2010, with GDP growth remaining near long-term historical levels over the forecast period. Under the baseline forecast, mail tonnage was estimated to decrease 14.5 percent in 2009 and then forecast to rebound to its 2008 level by approximately 2015. After 2016, mail volume is forecast to increase an annual average of less than 1 percent. Freight volume was estimated to decrease approximately 17 percent from 2008 to 2009, and then forecast to gradually recover to 2008 levels by 2013. After 2013, freight volume is forecast to increase an annual average of approximately 5 percent, which is slightly above the 4.7 percent average annual growth recorded from 2003 to 2008. Over the long-term, the average annual growth rate for freight is expected to gradually decrease to approximately 3.9 percent by 2050.

High-Growth Scenario: Under the high-growth scenario, it was assumed that general economic conditions would reach their low point in mid-2009 and then rapidly improve by mid-2010 with GDP growth well above historical averages. Mail tonnage would follow a trend identical to that under the baseline forecast. Freight tonnage would rebound from the 2009 decline and surpass 2008 levels by mid-2011 and then continue to increase at an above average annual growth rate of approximately 6 percent through 2030. The annual average freight growth rate would then gradually decrease to approximately 5 percent by 2050 under the high-growth scenario.

Low-Growth Scenario: Under the low-growth scenario, it was assumed that the currently weak economic conditions would continue into 2011 and then a recovery characterized by GDP growth slower than the long-term historical average would begin. Mail tonnage would follow a trend identical to that under the baseline forecast. Freight tonnage would decrease approximately 18 percent from 2008 to 2009, and then decrease an additional 6 percent in 2010. A modest rebound would occur from 2011 through 2013 at an average annual rate of approximately 6 percent, but then freight growth would slow to a below-average growth rate of approximately 2.6 percent per year from 2014 through 2050 under the low-growth scenario.

Under the baseline forecast, cargo tonnage is forecast to increase an annual average of 3.3 percent from 2008 to 2050, from 141,399 tons in 2008 to 274,854 tons in 2030 and 553,472 tons in 2050.

Under the high-growth forecast scenario, cargo tonnage would increase an annual average of 4.8 percent from 2008 to 2050, numbering 391,109 tons in 2030 and 1,015,678 tons in 2050.

Under the low-growth forecast scenario, cargo tonnage would increase an annual average of 1.7 percent from 2008 to 2050, numbering 186,461 tons in 2030 and 288,495 tons in 2050.

Table 3-28: Cargo Tonnage Forecasts

The forecasts presented in this table were prepared using the information and assumptions described in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Baseline Forecast								
Cargo Tons	Actual 2008 (a)	Estimated 2009 (b)	Forecast					CAGR 2008-2050
			2010	2015	2020	2030	2050	
Mail	33,624	28,756	29,898	33,767	35,315	38,176	42,521	0.6%
Percent increase (decrease) (c)		(14.5%)	4.0%	2.5%	0.9%	0.8%	0.5%	
Freight	107,774	89,143	94,257	121,419	153,861	236,678	510,951	3.8%
Percent increase (decrease) (c)		(17.3%)	5.7%	5.2%	4.8%	4.4%	3.9%	
Total	141,399	117,899	124,155	155,187	189,176	274,854	553,472	3.3%
Percent increase (decrease) (c)		(16.6%)	5.3%	4.6%	4.0%	3.8%	3.6%	
High-Growth Forecast								
Cargo Tons	Actual 2008 (a)	Estimated 2009 (b)	Forecast					CAGR 2008-2050
			2010	2015	2020	2030	2050	
Mail	33,624	28,822	29,997	34,042	35,779	39,059	44,441	0.7%
Percent increase (decrease) (c)		(14.3%)	4.1%	2.6%	1.0%	0.9%	0.6%	
Freight	107,774	89,186	101,960	149,258	198,426	352,050	971,237	5.4%
Percent increase (decrease) (c)		(17.2%)	14.3%	7.9%	5.9%	5.9%	5.2%	
Total	141,399	118,008	131,957	183,300	234,205	391,109	1,015,678	4.8%
Percent increase (decrease) (c)		(16.5%)	11.8%	6.8%	5.0%	5.3%	4.9%	
Low-Growth Forecast								
Cargo Tons	Actual 2008 (a)	Estimated 2009 (b)	Forecast					CAGR 2008-2050
			2010	2015	2020	2030	2050	
Mail	33,624	28,427	29,223	32,347	33,724	36,230	39,809	0.4%
Percent increase (decrease) (c)		(15.5%)	2.8%	2.1%	0.8%	0.7%	0.5%	
Freight	107,774	88,930	83,635	103,335	117,009	150,231	248,687	2.0%
Percent increase (decrease) (c)		(17.5%)	(6.0%)	4.3%	2.5%	2.5%	2.6%	
Total	141,399	117,357	112,858	135,682	150,733	186,461	288,495	1.7%
Percent increase (decrease) (c)		(17.0%)	(3.8%)	3.8%	2.1%	2.1%	2.2%	

(a) Source: 2008 data provided by City of San Antonio Aviation Department. Estimates and forecasts provided by the AECOM Team.

(b) Estimated on the basis of four months of actual data

(c) Represents the compound annual growth rate for the period from the next earlier forecast horizon year to the later forecast horizon year.

Note: Columns may not add to totals shown due because of rounding.

3.6.3 Aircraft Operations

Forecasts of aircraft operations were developed for mainline passenger, regional passenger, air cargo, GA, and military operations. Baseline, high-growth, and low-growth forecasts were developed for passenger airline aircraft operations that correspond with the respective enplaned passenger forecast scenarios. Likewise, baseline, high-growth, and low-growth forecasts were developed for air cargo and GA operations based on factors unique to each category. The methodology and assumptions underlying the various forecasts of aircraft operations are presented below.

Passenger Airline Aircraft Operations

The forecast of passenger airline aircraft operations was developed by creating a simulated average day airline schedule for the 2008 base year and for the forecast years 2010, 2015, 2020, 2030, and 2050. The future year average day airline schedules were adjusted for the evolution of the aircraft fleet mix, passenger load factors, and city-pair markets to accommodate the corresponding enplaned passenger forecast for each year. The airline schedules were then annualized to produce forecasts of mainline and regional passenger airline aircraft operations.

The baseline, high-growth, and low-growth forecasts of enplaned passengers were the primary inputs to the three aircraft operations scenarios. Key assumptions common to the three forecast scenarios are as follows:

1. The passenger airline aircraft operations forecast was based on the forecast of total enplaned passengers and assumptions regarding the future airline fleet mix, load factors, and city-pair markets.
2. The future airline fleet mix was projected based on recent and emerging airline trends, new aircraft orders for the airlines serving SAT, and the assumption that the Airport will continue to serve as a primarily origin-destination airport.
3. Average passenger load factors were assumed to remain generally stable over the forecast horizon, based on recent historical load factors and airline industry trends toward increasingly efficient aircraft use.
4. The average numbers of enplaned passengers per departure for both regional airline aircraft and mainline airline aircraft are anticipated to increase gradually based on an assumed increase in aircraft size (average seats per departure) and stable load factors. The average seats per departure are forecast to increase from approximately 119 in 2008 to 121 in 2010 and to remain at that level through 2020. The average seats per departure are then forecast to increase to 125 in 2030 and to 128 in 2050.
5. Consistent with historical trends, regional/commuter airline aircraft operations were assumed to represent an increasing share of passenger airline aircraft operations through 2020 and then begin to decrease as a percentage of total operations through 2050, as these aircraft are replaced by larger narrowbody aircraft.
6. Less fuel-efficient aircraft, such as the older B-737s operated by Southwest Airlines and the MD-80s operated by American Airlines and Delta Air Lines, were assumed to

gradually be replaced by new aircraft over the forecast horizon. Some of the older aircraft would be replaced by large regional jets while others would be replaced with new NextGen narrowbody aircraft.

As presented in **Table 3-29**, under the baseline scenario, passenger airline aircraft operations are forecast to increase from 96,500 in 2008 to 157,000 in 2030 and to 214,600 in 2050 at an average annual rate of 1.9 percent. Passenger air carrier aircraft operations are forecast to increase from 87,400 in 2008 to 146,000 in 2030 at an average annual rate of 2.4 percent. Continuing the historical trend, regional airline aircraft operations are forecast to increase from 9,100 in 2008 to 11,000 in 2030, at an average annual rate of 0.9 percent.

Table 3-29: Aircraft Operations Forecasts

The forecasts presented in this table were prepared using the information and assumptions described in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Baseline Forecast								
Aircraft Operations	Actual 2008 (a)	Estimated 2009 (b)	Forecast					CAGR 2008-2050
			2010	2015	2020	2030	2050	
Passenger								
Air carrier	87,400	76,900	83,200	103,600	114,600	146,000	201,400	2.0%
Regional/commuter	9,100	8,000	8,000	11,000	12,200	11,000	13,200	0.9%
Subtotal	96,500	84,900	91,200	114,600	126,800	157,000	214,600	1.9%
All-Cargo								
Air carrier	6,269	5,000	5,400	6,600	7,700	10,300	17,400	2.5%
Regional/commuter	937	800	800	1,000	1,200	1,500	2,600	2.5%
Subtotal	7,206	5,800	6,200	7,600	8,900	11,800	20,000	2.5%
Air taxi	24,776	25,000	25,000	26,000	28,000	31,000	37,000	1.0%
General Aviation	83,982	73,000	71,000	76,000	76,000	76,000	76,000	(0.2%)
Military	4,030	4,300	4,000	5,000	5,000	5,000	6,000	1.0%
Total Operations	216,494	193,000	197,400	229,200	244,700	280,800	353,600	1.2%
Percent increase (decrease) (c)		(10.9%)	2.3%	3.0%	1.3%	1.4%	1.2%	
High-Growth Forecast								
Aircraft Operations	Actual 2008 (a)	Estimated 2009 (b)	Forecast					CAGR 2008-2050
			2010	2015	2020	2030	2050	
Passenger								
Air carrier	87,400	76,900	89,000	120,000	139,000	187,000	304,000	3.0%
Regional/commuter	9,100	8,000	8,000	12,000	13,000	15,000	20,000	1.9%
Subtotal	96,500	84,900	97,000	132,000	152,000	202,000	324,000	2.9%
All-cargo								
Air carrier	6,269	5,200	5,800	7,800	9,600	14,800	32,100	4.0%
Regional/commuter	937	800	900	1,200	1,400	2,200	4,800	4.0%
Subtotal	7,206	6,000	6,700	9,000	11,000	17,000	36,900	4.0%
Air taxi	24,776	25,000	25,000	28,000	31,000	38,000	56,000	2.0%
General aviation	83,982	73,000	73,000	78,000	85,000	100,000	122,000	0.9%
Military	4,030	4,300	4,000	5,000	5,000	6,000	9,000	1.9%
Total Operations	216,494	193,200	205,700	252,000	284,000	363,000	547,900	2.2%
Percent increase (decrease) (c)		(10.8%)	6.5%	4.1%	2.4%	2.5%	2.1%	
Low-Growth Forecast								
Aircraft Operations	Actual 2008 (a)	Estimated 2009 (b)	Forecast					CAGR 2008-2050
			2010	2015	2020	2030	2050	
Passenger								
Air carrier	87,400	76,900	78,000	88,000	97,000	118,000	150,000	1.3%
Regional/commuter	9,100	8,000	7,000	8,000	9,000	9,000	11,000	0.5%
Subtotal	96,500	84,900	85,000	96,000	106,000	127,000	161,000	1.2%
All-cargo								
Air carrier	6,269	5,200	4,900	5,800	6,100	7,000	9,000	0.9%
Regional/commuter	937	800	700	900	900	1,000	1,300	0.8%
Subtotal	7,206	6,000	5,600	6,700	7,000	8,000	10,300	0.9%
Air taxi	24,776	25,000	22,000	23,000	24,000	25,000	27,000	0.2%
General Aviation	83,982	73,000	72,000	67,000	62,000	54,000	40,000	(1.8%)
Military	4,030	4,000	4,000	5,000	5,000	5,000	5,000	0.5%
Total Operations	216,494	192,900	188,600	197,700	204,000	219,000	243,300	0.3%
Percent increase (decrease) (c)		(10.9%)	(2.2%)	0.9%	0.6%	0.7%	0.5%	

(a) Aircraft operations by category for 2008 are estimated based on City of San Antonio Aviation Department records, U.S. DOT T100 statistics and airline schedule data from Official Airline Guide. Estimates and forecasts provided by the AECOM Team.

(b) Estimated on the basis of four months of actual data

(c) Represents the compound annual growth rate for the period from the next earlier forecast horizon year to the later forecast horizon year.

The high-growth scenario was based on the high-growth enplaned passenger forecasts and the same approach and methodology as used for the baseline aircraft operations forecast. Under the high-growth forecast scenario, passenger aircraft operations would increase from 96,500 in 2008 to 202,000 in 2030, and to 324,000 in 2050 at an average annual rate of 2.9 percent. In the high-growth scenario, air carrier aircraft operations would increase an average of 3.0 percent per year and regional aircraft operations would increase an average of 1.9 percent per year. Air carrier aircraft operations increases in the high-growth scenario reflect the narrowbody aircraft that would be added to the fleet.

The low-growth passenger aircraft operations scenario was based on the low-growth enplaned passenger forecasts and the same approach and methodology as used for the baseline aircraft operations forecast. Under the low-growth scenario, aircraft operations would increase from 96,500 in 2008 to 127,000 in 2030 and to 161,000 in 2050 at an annual average rate of 1.2 percent.

All-Cargo Aircraft Operations

As presented in Table 3-29, total all-cargo aircraft operations under the baseline scenario are forecast to increase from 7,206 in 2008 to 11,800 in 2030 and to 20,000 in 2050 at an average annual rate of 2.5 percent.

The high-growth forecast was based on the high-growth scenario assumptions and the same approach and methodology as used in the baseline aircraft operations forecast. Under the high-growth scenario, total all-cargo aircraft operations would increase to 17,000 in 2030 and to 36,900 in 2050 at an average annual rate of 4.0 percent.

The low-growth forecast was based on the low-growth scenario assumptions and the same approach and methodology as used in the baseline aircraft operations forecast. Under the low-growth scenario, total all-cargo aircraft operations would increase to 8,000 in 2030 and to 10,300 in 2050 at an average annual rate of 0.9 percent.

General Aviation Aircraft Operations

GA aircraft operations at the Airport, which consist mostly of itinerant operations, have declined from a peak of approximately 142,000 operations in 1998 to 83,982 operations in 2008. GA activity declined almost each year from 1998 through 2008, which is consistent with the national trend. GA activity has been declining in part because of the rising costs of aircraft ownership and maintenance, liability issues related to GA aircraft operation, and the increased availability of commercial airline service. In addition, a portion of the decline in the Airport's GA activity was the result of the relocation of GA activity to other airports, such as Stinson Municipal Airport. The City of San Antonio is encouraging this growth in GA operations at Stinson Municipal Airport instead of SAT. SAT will likely maintain an important role in the GA sector in part because of its status as a U.S. Port of Entry, providing for private aircraft processing by U.S. Customs and Border Protection.

To reflect potential changes in the GA traffic segment, a range of GA operations forecasts was developed and the results are presented in Table 3-29. These forecasts were based on historical trends in GA activity at the Airport, FAA forecasts for itinerant GA operations, and anticipated GA segment development.

Key assumptions used in developing the three GA forecast scenarios are described below.

1. The baseline forecast scenario of GA operations is based on the assumption that operations will decrease approximately 13 percent in 2009 and by 2.7 percent in 2010 before increasing at an average annual rate of 1.5 percent from 2011 through 2015. From 2016 through 2050, GA operations are forecast to remain constant at the 2015 level. Under the baseline forecast scenario, it was assumed that a certain level of GA activity would remain at SAT while most of the growth in GA activity would occur at Stinson Municipal Airport, as that airport's new facilities are placed in service. Under the baseline forecast, GA operations are forecast to remain level at approximately 76,000 per year through the forecast horizon.
2. The high-growth scenario is based on the assumption that GA operations at the Airport would increase at the FAA's forecast national average growth rate for GA itinerant operations of approximately 1.0 percent from 2008 through 2025. The FAA assumes that GA itinerant operations nationwide will decrease approximately 7.0 percent in 2009, remain level in 2010, and then increase at an average annual rate of approximately 1.5 percent from 2011 through 2025. The Master Plan high-growth forecast is based on the assumption that GA operations at SAT would decrease approximately 13 percent in 2009, based on data for the first 4 months of the year, and then increase between 2010 and 2025 at the FAA growth rates. GA aircraft operations are forecast to increase an average of 1.5 percent per year between 2025 and 2030 and then growth is forecast to increase approximately 1.0 percent per year between 2030 and 2050. Under the high-growth forecast scenario, GA operations would number 100,000 in 2030 and 122,000 in 2050.
3. The low-growth scenario is based on the assumption that GA operations would decrease approximately 13 percent in 2009, based on data for the first 4 months of 2009. GA operations would then decrease an average of 1.8 percent per year between 2010 and 2050. This assumed decrease in GA operations is similar to the actual 5-year annual growth trend recorded from 2004 through 2008, and a continuation of the general long-term trend of declining GA operations at SAT. Under the low-growth forecast, GA operations would decline to 54,000 in 2030 and to 40,000 in 2050.

Military Aircraft Operations

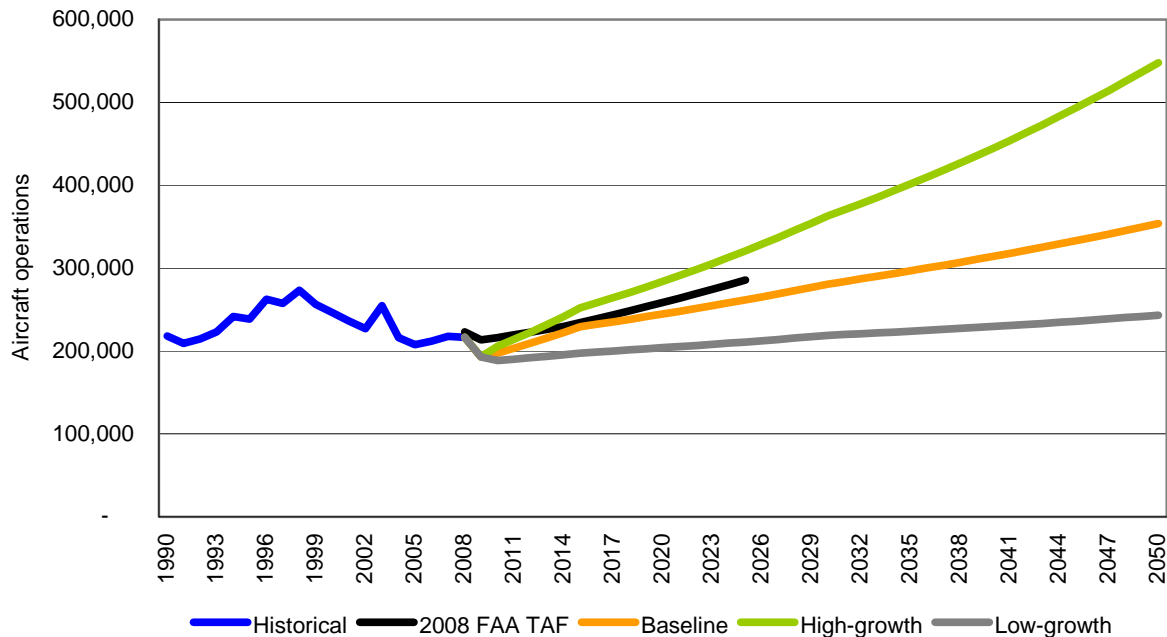
Military aircraft operations cannot be forecast in the same manner as civilian traffic; future military operations will likely be the result of geopolitical trends and U.S. military policy decisions. The baseline forecast for military operations was based on the assumption that they will increase from approximately 4,000 operations in 2008 to 5,000 operations by 2015 and 6,000 operations in 2050. The high-growth scenario is based on the assumption that military operations will increase to 6,000 in 2030 and to 9,000 in 2050. The low-growth scenario is based on the assumption that military operations will peak at approximately 5,000 in 2015 and remain at that level through 2050.

Total Aircraft Operations

Figure 3-11 and Table 3-29 present aircraft operations for the three scenarios for comparison. Under the baseline scenario, total aircraft operations are forecast to increase from 216,494 in 2008 to 280,800 in 2030 and to 353,600 in 2050 at an average annual growth rate of

1.2 percent. Under the high-growth scenario, total aircraft operations would increase to 363,000 in 2030 and to 547,900 in 2050 at average annual growth rate of 2.2 percent. Under the low-growth scenario, total aircraft operations would increase from 216,494 in 2008 to 219,000 in 2030 and to 243,300 in 2050 at an average annual growth rate of 0.3 percent.

Figure 3-11: Aircraft Operations Forecast Scenarios



Note: 2008 FAA TAF forecast horizon is 2025.

Aircraft Fleet Mix

The aircraft fleet mix was projected for the baseline forecast of passenger, air cargo, GA, and military aircraft operations. Actual fleet mix data for 2008 were used to estimate the percentages of the various aircraft types operating at the Airport during the year. This base year fleet mix was then adjusted over the forecast horizon to account for projected changes in the fleet as a result of aircraft retirements, aircraft orders, airline announcements regarding fleet changes, general industry trends, and professional judgment.

Key assumptions used in projecting the future fleet mix at SAT are provided below.

1. The baseline passenger aircraft fleet mix was derived from the Official Airline Guides, Inc. passenger flight schedule for the selected design day in July 2008. Through the forecast horizon, it is likely that new aircraft models will be introduced by Boeing, Airbus, and other aircraft manufacturers. Similarly, it is possible that aircraft by new manufacturers will enter the U.S. market and the fleet mix at SAT. As it is impossible to predict the make, model, and size of potential aircraft types in the future, the fleet mix projection was developed based on the inventory of existing aircraft. It was assumed that, when airlines replace their existing aircraft, it will be with aircraft

designed to perform a similar mission and in the same size category as the retired aircraft.

2. The Airport will continue to serve as a primarily origin-destination airport with Southwest Airlines accounting for approximately 35 percent of the total passenger market share. The majority of the remaining market share will be accounted for by the network carriers serving their respective hub cities from SAT and low cost carriers such as AirTran Airways and Frontier Airlines. As a result, the percentage of narrowbody aircraft operations is expected to gradually increase through the forecast horizon.
3. American Airlines will gradually phase out its MD-80 aircraft in favor of new B-737-800 aircraft.
4. Operations by existing 50-seat regional jet aircraft (or future equivalently sized regional jets) are expected to decline moderately over the forecast horizon. The likely replacement for the 50-seat regional jets at SAT would be 70- to 86-seat regional jets. Transitions to the larger regional jets have been occurring over the last few years and are expected to continue.
5. FedEx will gradually replace its existing B-727 aircraft with B-757 aircraft in accordance with its reported fleet replacement plans. Long-term (2020 and beyond), B-767 and B-777 sized aircraft are expected to serve SAT. UPS will continue to retire its DC-8 aircraft and replace them with A300 and/or B-757 aircraft.
6. The GA aircraft fleet will continue to evolve toward more sophisticated business/corporate jets while operations by piston and multi-engine turboprop aircraft will decrease in accordance with both local and national trends in GA activity.
7. The military fleet mix was assumed to be similar to that in operation as of July 2008.

Table 3-30 presents the projected fleet mix for 2008 and forecast years 2010, 2015, 2020, 2030, and 2050.

Table 3-30: Projected Aircraft Fleet Mix

Aircraft Type	2008	2010	2015	2020	2030	2050
Passenger Aircraft						
Widebody						
Boeing 767	0.0%	0.0%	0.3%	0.3%	0.5%	0.6%
Subtotal	0.0%	0.0%	0.3%	0.3%	0.5%	0.6%
Narrowbody						
Airbus 318	0.3%	0.4%	1.0%	1.2%	1.3%	1.4%
Airbus 319	3.4	3.7	4.5	4.4	5.7	6.7
Airbus 320	0.7	0.7	0.6	0.6	1.0	1.4
Boeing 717	1.0	1.1	1.3	1.8	2.1	2.4
Boeing 737-300	5.4	5.2	4.5	4.1	3.6	2.8
Boeing 737-500	2.7	3.0	3.2	1.8	1.5	1.2
Boeing 737-800	2.7	2.6	2.2	8.8	11.6	13.0
Boeing 737-900	0.3	0.4	0.6	0.6	0.8	1.4
Boeing 737-700	11.1	12.2	14.0	16.6	17.3	19.7
MD-80	4.7	4.4	3.8	0.0	0.0	0.0
MD-83	1.0	1.1	1.0	0.0	0.0	0.0
MD-88	2.0	1.8	1.9	0.0	0.0	0.0
Subtotal	35.2%	36.6%	38.6%	39.7%	44.8%	50.2%
Regional/commuter						
CRJ-700	4.4%	4.4%	5.2%	5.3%	5.1%	5.1%
CRJ-900	2.3	2.2	2.6	2.6	2.8	2.2
CRJ-200	0.3	0.4	0.2	0.0	0.0	0.0
Embraer 140	0.7	0.7	0.5	0.0	0.0	0.0
Embraer 145	0.7	0.7	0.5	0.0	0.0	0.0
Embraer 175	1.3	1.1	2.1	4.1	3.2	3.0
Subtotal	9.7%	9.6%	11.2%	12.0%	11.1%	10.4%
Total passenger aircraft	44.9%	46.2%	49.7%	51.7%	55.9%	60.6%
All-Cargo Aircraft						
Widebody						
Airbus 300	0.4%	0.4%	0.7%	0.7%	0.6%	0.3%
Airbus 310	0.0	0.0	0.0	0.0	0.0	0.0
Boeing 767	0.0	0.0	0.0	0.2	0.8	1.4
Boeing 747	0.0	0.0	0.0	0.0	0.0	0.2
Boeing 777	0.0	0.0	0.0	0.1	0.3	0.8
DC-10-10	0.1	0.1	0.1	0.1	0.0	0.0
DC-10-30	0.5	0.4	0.5	0.2	0.0	0.0
MD-11	0.0	0.0	0.0	0.0	0.4	0.6
Subtotal	1.0%	1.1%	1.4%	1.3%	2.3%	3.3%
Narrowbody						
Boeing 727	0.8%	0.6%	0.2%	0.0%	0.0%	0.0%
Boeing 737	0.0	0.0	0.0	0.4	0.5	0.8
Boeing 757	1.0	1.0	1.3	1.5	0.8	0.7
DC-8-61	0.1	0.0	0.0	0.0	0.0	0.0
DC-9-15F	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal	1.9%	1.7%	1.5%	1.8%	1.4%	1.5%
Regional/commuter						
Cessna 208	0.4%	0.4%	0.4%	0.4%	0.5%	0.6%
Convair 580	0.0	0.0	0.0	0.0	0.0	0.1
Falcon	0.0	0.0	0.0	0.0	0.0	0.1
Subtotal	0.4%	0.4%	0.4%	0.5%	0.5%	0.7%

Table 3-30: Projected Aircraft Fleet Mix (continued)

Aircraft Type	2008	2010	2015	2020	2030	2050
Air Taxi/General Aviation						
Single-engine piston	25.7%	24.1%	21.1%	16.5%	12.9%	9.2%
Multi-engine piston	5.0	5.0	3.5	2.8	1.6	1.2
Turboprop	6.8	7.1	6.6	5.5	4.6	3.7
Business jet	11.7	11.5	12.6	16.5	17.3	16.2
Regional jet	0.3	0.4	0.6	0.8	0.9	1.0
Helicopter	0.4	0.4	0.4	0.4	0.3	0.3
<i>Subtotal</i>	<i>49.9%</i>	<i>48.4%</i>	<i>44.7%</i>	<i>42.5%</i>	<i>37.6%</i>	<i>31.5%</i>
Military						
C-130	0.7%	0.9%	0.8%	0.8%	0.7%	0.7%
Helicopters	0.0	0.1	0.0	0.0	0.0	0.0
C-21 business jet	0.0	0.1	0.0	0.0	0.0	0.0
T-38 military jet	0.4	0.4	0.4	0.4	0.4	0.4
T-34 piston	0.6	0.8	0.7	0.7	0.6	0.6
<i>Subtotal</i>	<i>1.9%</i>	<i>2.2%</i>	<i>2.0%</i>	<i>1.9%</i>	<i>1.8%</i>	<i>1.8%</i>
Airport Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Sources: City of San Antonio Department of Aviation records; Official Airline Guide, US DOT T100 data.
Forecasts provided by the AECOM Team.
Note: Columns may not add to totals shown because of rounding.

3.6.4 Peak Period Demand Forecasts

Forecasts of enplaned passengers and aircraft operations are used in master plans to determine future facility requirements. The annual forecasts of enplaned passengers and aircraft operations to be applied in facility planning are generally converted into design metrics referred to as “peak period” activity. These metrics typically include average day, peak month (ADPM) activity and peak hour activity.

The ADPM was estimated independently for enplaned passengers and total aircraft operations. Peak hour enplaned passengers and aircraft operations were calculated from the estimates of the future ADPM for enplaned passengers.

Enplaned Passengers

The first step in determining peak period enplaned passengers was to identify the peak month for enplaned passenger activity in the base year 2008. Figure 3-7 shows the monthly distribution of enplaned passengers for the 5-year period from January 2004 through December 2008. July was the peak month in 4 of the 5 years, with the highest 5-year average of 363,000 enplaned passengers; therefore, July was chosen to represent the peak month.

Upon establishing July as the peak month for enplaned passengers, the daily scheduled seats for each day in July 2008 were analyzed to determine the ADPM. The ADPM is a theoretical metric estimated by dividing the month’s total scheduled seats by the number of days in the month (31). Upon determining the nominal number of scheduled seats that the ADPM schedule represents, an actual weekday schedule with a comparable number of scheduled seats was selected. The average day enplaned passengers were then allocated on an hourly basis according to the representative flight schedule to determine the peak hour for enplaned passengers.

Peak period forecasts for forecast years 2010, 2015, 2020, 2030, and 2050 were developed based on the 2008 baseline analysis, and the respective annual enplaned passenger forecasts. **Table 3-31** presents the peaking characteristics for both enplaned passengers and total aircraft operations.

Table 3-31: Peak Period Activity - Baseline Forecast

The forecasts presented in this table were prepared using the information and assumptions described in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Category	2008	2010	2015	2020	2030	2050
Enplaned Passengers						
Annual	4,167,000	3,863,000	4,814,000	5,501,000	6,940,000	10,501,000
Peak month	407,974	360,941	449,798	513,988	648,441	981,165
Percent of annual	9.8%	9.3%	9.3%	9.3%	9.3%	9.3%
Average day peak month	2,512	1,599	4,455	6,517	20,838	31,531
Percent of annual	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%
Peak hour enplaned passengers	1,474	1,366	1,702	1,945	2,454	3,713
Aircraft Operations						
Annual	216,494	197,400	229,200	244,700	280,800	353,600
Peak month	19,482	17,496	20,315	21,689	24,889	31,341
Percent of annual	9.0%	8.9%	8.9%	8.9%	8.9%	8.9%
Average day peak month	628	564	655	700	803	1,011
Percent of annual	0.29%	0.29%	0.29%	0.29%	0.29%	0.29%

Source: Historical activity provided by City of San Antonio Aviation Department and the Official Airline Guide. Projections provided by the AECOM Team.

3.6.5 Comparison with FAA Forecasts

A comparison of the Master Plan forecasts with the FAA's 2008 Terminal Area Forecast for the Airport is presented in **Tables 3-32** and **3-33**. The format of these tables is based on the templates provided by the FAA for comparing airport planning forecasts and the FAA TAF.⁹ The results are presented for the base year 2008 and forecast horizon years 1, 5, 10, and 15 years after the base year (2009, 2013, 2018, and 2023). The use of these specific forecast horizon years is required by the FAA for master planning analyses. A comparison to 2025, which is the final year of the latest TAF, is also provided. The FAA considers forecasts that differ by less than 10 percent in the 5-year period and 15 percent in the 10-year period to be consistent with the TAF and acceptable for planning purposes.

A number of minor differences exist between the time horizons of the Master Plan and TAF forecasts. The Master Plan forecasts were developed on a calendar year basis while the TAF was prepared on a federal fiscal year (FFY) basis (years ending September 30). Also, the base year for the Master Plan forecast is 2008 (based on actual 2008 data) whereas the TAF base year was FFY 2007, with FFY 2008 data estimated. Finally, the TAF forecasts enplaned passengers through 2025, whereas the Master Plan forecasts extend through 2050.

Table 3-32 presents the Master Plan forecasts of enplaned passengers and the individual categories of aircraft operations for the forecast horizon years required by the FAA. Table 3-33

⁹ U.S. Department of Transportation, Federal Aviation Administration, *Forecasting Aviation Activity by Airport*, July 2001, and *Revision to Guidance on Review and Approval of Aviation Forecasts*, Memorandum from Director of Airport Planning and Programming, APP-1, December 23, 2004, <http://www.faa.gov>.

presents a side-by-side comparison of the Master Plan forecasts and the TAF for enplaned passengers, commercial aircraft operations, and total aircraft operations. The comparison of the two enplaned passenger forecasts demonstrates that the Master Plan forecasts are generally more optimistic than the TAF, but are well within the acceptable range considered by the FAA as consistent with the TAF. For the 2013 planning year, the Master Plan forecast of enplaned passengers is 6.0 percent higher than the TAF, but below the 10 percent variance allowed by the FAA. Similarly, for the 2018 planning year, the Master Plan forecast is 10.1 percent higher than the TAF, but below the 15 percent variance allowed by the FAA.

The comparison of the two commercial aircraft operations forecasts demonstrates that the Master Plan forecast is higher than the TAF but well within the acceptable range considered by the FAA as consistent with the TAF. For the 2013 planning year, the Master Plan forecast is 4.2 percent higher than the TAF. Similarly, for the 2018 planning year, the Master Plan forecast is 7.0 percent higher than the TAF. Therefore, the FAA considers the Master Plan forecasts acceptable.

For total aircraft operations, the Master Plan forecast is more conservative than the TAF. For the 2013 planning year, the Master Plan forecast is 4.4 percent below the TAF. Similarly, for the 2018 planning year, the Master Plan forecast is 4.2 percent lower than the TAF.

Based on the comparative analysis described above, the Master Plan forecasts can be considered consistent with the 2008 TAF and should be acceptable to the FAA for planning purposes. Therefore, the two forecasts are considered consistent and acceptable for planning purposes.

Table 3-32: Comparative Forecasts

		Annual compound growth rates									
		Base Year	Base Year	Base Year	Base Year	Base Year	Base Year	Base Year	Base Year	Base Year	Base Year
		+ 1 year	+ 5 years	+ 10 years	+ 15 years	+ 18 years	to +1 year	to +5 years	to +10 years	to + 15 years	Base Year to +18 years
		2008	2009	2013	2018	2023	2025				
Passenger enplanements											
Air carrier	3,608,000	3,247,000	3,819,000	4,490,000	5,106,000	5,372,000	-10.0%	1.1%	2.2%	2.3%	2.2%
Commuter	559,000	503,000	589,000	725,000	791,000	804,000	-10.0%	1.1%	2.6%	3.1%	2.0%
Total	4,167,000	3,750,000	4,408,000	5,215,000	5,897,000	6,176,000	-10.0%	1.1%	2.3%	3.1%	2.2%
Aircraft operations											
Air carrier	93,669	82,000	101,000	117,000	132,000	138,000	-12.5%	1.5%	2.2%	3.2%	2.2%
Commuter/air taxi	34,813	34,000	36,000	40,000	42,000	42,000	-2.3%	0.7%	1.4%	1.4%	1.0%
Total commercial operations	128,482	116,000	137,000	157,000	174,000	180,000	-9.7%	1.3%	2.0%	2.7%	1.9%
General aviation											
Itinerant	83,858	73,000	74,000	76,000	76,000	76,000	-12.9%	-2.5%	-1.0%	0.3%	-0.5%
Local	124	100	150	200	200	200					
Total general aviation operations	83,982	73,100	74,150	76,200	76,200	76,200	-13.0%	-2.5%	-1.0%	0.3%	-0.5%
Military	4,030	4,000	5,000	5,000	5,000	5,000	-0.7%	4.4%	2.2%	1.5%	1.2%
Total operations	216,494	193,100	216,150	238,200	255,200	261,200	-10.8%	0.0%	1.0%	1.9%	1.0%

Source: Historical activity provided by City of San Antonio Aviation Department. Forecasts provided by the AECOM Team.

Table 3-33: Comparison of Master Plan and FAA TAF Forecasts

	Forecast Year (a)(c)	SAT Master Master Plan (b)	2008 FAA TAF	% Variance SAT MP vs. 2008 TAF
Passenger enplanements				
Base year	2008	4,167,000	4,042,936	3.1%
Base year + 1 year	2009	3,750,000	3,748,062	0.1%
Base year + 5 years	2013	4,408,000	4,157,180	6.0%
Base year + 10 years	2018	5,215,000	4,734,539	10.1%
Base year + 15 years	2023	5,897,000	5,395,697	9.3%
Base year + 18 years	2025	6,176,000	5,686,477	8.6%
Annual compound growth rates				
2008-2013		1.1%	0.6%	
2009-2013		4.1%	2.6%	
2013-2018		3.4%	2.6%	
2018-2025		2.4%	2.7%	
Commercial operations (d)				
Base year	2008	128,482	130,776	-1.8%
Base year + 1 year	2009	116,000	120,420	-3.7%
Base year + 5 years	2013	137,000	131,476	4.2%
Base year + 10 years	2018	157,000	146,736	7.0%
Base year + 15 years	2023	174,000	163,776	6.2%
Base year + 18 years	2025	180,000	171,133	5.2%
Annual compound growth rates				
2008-2013		1.3%	0.1%	
2009-2013		4.2%	2.2%	
2013-2018		2.8%	2.2%	
2018-2025		2.0%	2.2%	
Total operations (e)				
Base year	2008	216,494	222,889	-2.9%
Base year + 1 year	2009	193,100	213,235	-9.4%
Base year + 5 years	2013	216,150	226,206	-4.4%
Base year + 10 years	2018	238,200	248,535	-4.2%
Base year + 15 years	2023	255,200	274,414	-7.0%
Base year + 18 years	2025	261,200	285,545	-8.5%
Annual compound growth rates				
2008-2013		0.0%	0.3%	
2009-2013		2.9%	1.5%	
2013-2018		2.0%	1.9%	
2018-2025		1.3%	2.0%	

Source: Historical activity provided by City of San Antonio Aviation Department and the FAA 2008 Terminal Area Forecast. Projections provided by AECOM Team.

(a) The Master Plan forecast was prepared on a calendar year basis and the FAA TAF was prepared on a federal fiscal year ending September 30th.

(b) SAT Master Plan figures for 2008 are based on actual results and 2009 is an estimate based on year to date figures.

(c) The 2008 TAF's forecast horizon is 2008 through 2025.

(d) Commercial operations include operations by passenger airlines, air taxi and all-cargo airlines.

(e) Total operations include commercial operations plus general aviation and military operations.